



中华人民共和国国家标准

GB 4086.1~4086.6—83

统计分布数值表

Tables for statistical distributions

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国家标准局 批准

统计分布数值表

χ^2 分布

GB 4086.2—83

Tables for statistical distributions
 χ^2 -distribution

本标准包括统计学中常用的 χ^2 分布的两种数值表，它们的名称、表距和精度如下：

χ^2 分布函数表	$\nu = 1 (1) 30 (2) 70$	6 位小数
	$\chi^2 = 0 (0.01) 0.1 (0.05) 1.1 (0.1) 3 (0.2) 10 (0.5)$	
	17 (1) 100 (2) 130	
χ^2 分布分位数表	$p = 0.0005, 0.001, 0.0025, 0.005, 0.01,$ 0.02, 0.025, 0.05, 0.1, 0.15, 0.2, 0.25, 0.3, 0.4, 0.5, 0.6, 0.65, 0.7, 0.75, 0.8, 0.85, 0.9, 0.95, 0.975, 0.98, 0.99, 0.995, 0.9975, 0.999, 0.9995	5 位小数

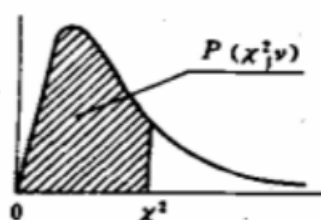
表中的分位数对应于下侧概率。

虽然表中给出5~6位小数，但是在使用中需要取几位，要由实际问题决定。

在应用中不能满足要求时，可参考附录的处理方法。

1 χ^2 分布函数表

$$P(\chi^2; \nu) = \int_0^{\chi^2} \frac{1}{2\Gamma(\nu/2)} (\chi^2/2)^{\nu/2-1} e^{-\chi^2/2} d\chi^2$$



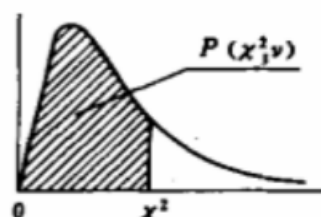
χ^2	1	2	3	4	5	6	7	8	9	10
0.00	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
0.01	0.079656	0.004988	0.000265	0.000012	0.000001	0.000000	0.000000	0.000000	0.000000	0.000000
0.02	0.112463	0.009950	0.000748	0.000050	0.000003	0.000000	0.000000	0.000000	0.000000	0.000000
0.03	0.137510	0.014888	0.001370	0.000111	0.000008	0.000001	0.000000	0.000000	0.000000	0.000000
0.04	0.158519	0.019801	0.002102	0.000197	0.000017	0.000001	0.000000	0.000000	0.000000	0.000000
0.05	0.176937	0.024690	0.002929	0.000307	0.000029	0.000003	0.000000	0.000000	0.000000	0.000000
0.06	0.193504	0.029554	0.003839	0.000441	0.000046	0.000004	0.000000	0.000000	0.000000	0.000000
0.07	0.208663	0.034395	0.004824	0.000598	0.000067	0.000007	0.000001	0.000000	0.000000	0.000000
0.08	0.222703	0.039211	0.005876	0.000779	0.000094	0.000010	0.000001	0.000000	0.000000	0.000000
0.09	0.235823	0.044003	0.006990	0.000983	0.000125	0.000015	0.000002	0.000000	0.000000	0.000000
0.10	0.248170	0.048771	0.008163	0.001209	0.000162	0.000020	0.000002	0.000000	0.000000	0.000000
0.15	0.301465	0.072257	0.014774	0.002676	0.000439	0.000066	0.000009	0.000001	0.000000	0.000000
0.20	0.345279	0.095163	0.022411	0.004679	0.000886	0.000155	0.000025	0.000004	0.000001	0.000000
0.25	0.382925	0.117503	0.030860	0.007191	0.001521	0.000296	0.000054	0.000009	0.000001	0.000000
0.30	0.416118	0.139292	0.039972	0.010186	0.002357	0.000503	0.000100	0.000019	0.000003	0.000001
0.35	0.445887	0.160543	0.049634	0.013638	0.003404	0.000784	0.000168	0.000034	0.000006	0.000001
0.40	0.472911	0.181269	0.059758	0.017523	0.004670	0.001148	0.000263	0.000057	0.000012	0.000002
0.45	0.497665	0.201484	0.070269	0.021818	0.006160	0.001605	0.000390	0.000089	0.000019	0.000004
0.50	0.520500	0.221199	0.081109	0.026499	0.007877	0.002161	0.000554	0.000133	0.000030	0.000007
0.55	0.541682	0.240428	0.092223	0.031546	0.009822	0.002824	0.000758	0.000191	0.000046	0.000010
0.60	0.561422	0.259182	0.103568	0.036936	0.011997	0.003599	0.001008	0.000266	0.000066	0.000016
0.65	0.579887	0.277473	0.115103	0.042651	0.014400	0.004493	0.001309	0.000359	0.000093	0.000023
0.70	0.597216	0.295312	0.126796	0.048671	0.017031	0.005509	0.001664	0.000473	0.000128	0.000033
0.75	0.613524	0.312711	0.138615	0.054977	0.019888	0.006652	0.002079	0.000612	0.000171	0.000045
0.80	0.628907	0.329680	0.150533	0.061552	0.022967	0.007926	0.002556	0.000776	0.000223	0.000061
0.85	0.643448	0.346230	0.162526	0.068378	0.026265	0.009334	0.003100	0.000970	0.000288	0.000081
0.90	0.657218	0.362372	0.174572	0.075439	0.029778	0.010879	0.003715	0.001195	0.000365	0.000106
0.95	0.670281	0.378115	0.186652	0.082720	0.033503	0.012563	0.004405	0.001455	0.000456	0.000136
1.00	0.682689	0.393469	0.198748	0.090204	0.037434	0.014388	0.005171	0.001752	0.000562	0.000172
1.05	0.694493	0.408445	0.210844	0.097878	0.041567	0.016354	0.006019	0.002088	0.000687	0.000215
1.10	0.705734	0.423050	0.222926	0.105728	0.045896	0.018464	0.006950	0.002466	0.000830	0.000266
1.20	0.726678	0.451188	0.246996	0.121901	0.055123	0.023115	0.009073	0.003358	0.001179	0.000394
1.30	0.745787	0.477954	0.270867	0.138624	0.065068	0.028342	0.011561	0.004448	0.001624	0.000565
1.40	0.763276	0.503415	0.294465	0.155805	0.075687	0.034142	0.014429	0.005753	0.002177	0.000786
1.50	0.779329	0.527633	0.317730	0.173359	0.086930	0.040505	0.017690	0.007292	0.002853	0.001065
1.60	0.794097	0.550671	0.340610	0.191208	0.098751	0.047423	0.021356	0.009080	0.003665	0.001411
1.70	0.807712	0.572585	0.363066	0.209282	0.111100	0.054879	0.025432	0.011131	0.004627	0.001835
1.80	0.820288	0.593430	0.385065	0.227518	0.123932	0.062857	0.029924	0.013459	0.005750	0.002344
1.90	0.831922	0.613259	0.406581	0.245855	0.137198	0.071338	0.034833	0.016074	0.007048	0.002949
2.00	0.842701	0.632121	0.427593	0.264241	0.150855	0.080301	0.040160	0.018988	0.008532	0.003660
2.10	0.852701	0.650062	0.448087	0.282628	0.164858	0.089724	0.045901	0.022208	0.010214	0.004485
2.20	0.861989	0.667129	0.468052	0.300971	0.179164	0.099584	0.052053	0.025742	0.012104	0.005435
2.30	0.870626	0.683363	0.487479	0.319231	0.193733	0.109855	0.058610	0.029594	0.014212	0.006519
2.40	0.878665	0.698806	0.506365	0.337373	0.208526	0.120513	0.065563	0.033769	0.016547	0.007746
2.50	0.886154	0.713495	0.524709	0.355364	0.223505	0.131532	0.072903	0.038269	0.019117	0.009124
2.60	0.893136	0.727468	0.542510	0.373177	0.238635	0.142888	0.080619	0.043095	0.021928	0.010663
2.70	0.899652	0.740760	0.559773	0.390785	0.253882	0.154553	0.088700	0.048248	0.024988	0.012370
2.80	0.905736	0.753403	0.576500	0.408167	0.269214	0.166502	0.097133	0.053725	0.028301	0.014253
2.90	0.911420	0.765430	0.592698	0.425303	0.284600	0.178711	0.105904	0.059525	0.031872	0.016320
3.00	0.916735	0.776870	0.608375	0.442175	0.300014	0.191153	0.114998	0.065642	0.035705	0.018576

本表对于自由度 ν 和 χ^2 给出 χ^2 分布函数 $P(\chi^2; \nu)$ 的数值。

例：对于 $\nu=7$ 和 $\chi^2=0.55$, $P(\chi^2; \nu)=0.000758$ 。

1 χ^2 分布函数表

$$P(\chi^2; \nu) = \int_0^{\chi^2} \frac{1}{2\Gamma(\nu/2)} (\chi^2/2)^{\nu/2-1} e^{-\chi^2/2} d\chi^2$$



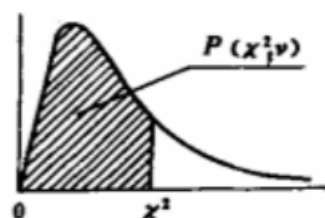
$\chi^2 \backslash \nu$	11	12	13	14	15	16	17	18	19	20
0.00	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
0.01	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
0.02	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
0.03	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
0.04	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
0.05	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
0.06	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
0.07	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
0.08	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
0.09	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
0.10	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
0.15	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
0.20	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
0.25	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
0.30	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
0.35	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
0.40	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
0.45	0.000001	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
0.50	0.000001	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
0.55	0.000002	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
0.60	0.000004	0.000001	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
0.65	0.000005	0.000001	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
0.70	0.000008	0.000002	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
0.75	0.000011	0.000003	0.000001	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
0.80	0.000016	0.000004	0.000001	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
0.85	0.000022	0.000006	0.000001	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
0.90	0.000029	0.000008	0.000002	0.000001	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
0.95	0.000039	0.000011	0.000003	0.000001	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
1.00	0.000050	0.000014	0.000004	0.000001	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
1.05	0.000065	0.000019	0.000005	0.000001	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
1.10	0.000082	0.000024	0.000007	0.000002	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
1.20	0.000126	0.000039	0.000012	0.000003	0.000001	0.000000	0.000000	0.000000	0.000000	0.000000
1.30	0.000188	0.000060	0.000019	0.000006	0.000002	0.000000	0.000000	0.000000	0.000000	0.000000
1.40	0.000271	0.000090	0.000029	0.000009	0.000003	0.000001	0.000000	0.000000	0.000000	0.000000
1.50	0.000380	0.000131	0.000043	0.000014	0.000004	0.000001	0.000000	0.000000	0.000000	0.000000
1.60	0.000520	0.000184	0.000063	0.000021	0.000007	0.000002	0.000001	0.000000	0.000000	0.000000
1.70	0.000697	0.000254	0.000089	0.000030	0.000010	0.000003	0.000001	0.000000	0.000000	0.000000
1.80	0.000915	0.000343	0.000124	0.000043	0.000015	0.000005	0.000002	0.000001	0.000000	0.000000
1.90	0.001182	0.000456	0.000169	0.000061	0.000021	0.000007	0.000002	0.000001	0.000000	0.000000
2.00	0.001504	0.000594	0.000226	0.000083	0.000030	0.000010	0.000003	0.000001	0.000000	0.000000
2.10	0.001887	0.000764	0.000298	0.000112	0.000041	0.000014	0.000005	0.000002	0.000001	0.000000
2.20	0.002339	0.000968	0.000386	0.000149	0.000056	0.000020	0.000007	0.000002	0.000001	0.000000
2.30	0.002866	0.001212	0.000494	0.000195	0.000074	0.000027	0.000010	0.000003	0.000001	0.000000
2.40	0.003476	0.001500	0.000624	0.000251	0.000098	0.000037	0.000014	0.000005	0.000002	0.000001
2.50	0.004176	0.001838	0.000780	0.000320	0.000127	0.000049	0.000018	0.000007	0.000002	0.000001
2.60	0.004973	0.002231	0.000965	0.000404	0.000163	0.000064	0.000025	0.000009	0.000003	0.000001
2.70	0.005874	0.002683	0.001182	0.000504	0.000208	0.000083	0.000032	0.000012	0.000005	0.000002
2.80	0.006886	0.003201	0.001435	0.000622	0.000261	0.000107	0.000042	0.000016	0.000006	0.000002
2.90	0.008018	0.003790	0.001729	0.000762	0.000326	0.000135	0.000054	0.000021	0.000008	0.000003
3.00	0.009274	0.004456	0.002066	0.000926	0.000402	0.000170	0.000070	0.000028	0.000011	0.000004

本表对于自由度 ν 和 χ^2 给出 χ^2 分布函数 $P(\chi^2; \nu)$ 的数值。

例：对于 $\nu = 11$ 和 $\chi^2 = 2.40$ ， $P(\chi^2; \nu) = 0.003476$ 。

1 χ^2 分布函数表

$$P(\chi^2; \nu) = \int_0^{\chi^2} \frac{1}{2\Gamma(\nu/2)} (\chi^2/2)^{\nu/2-1} e^{-\chi^2/2} d\chi^2$$



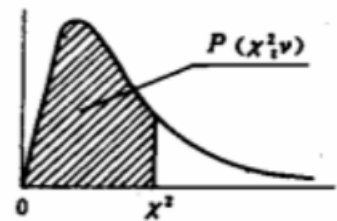
$\chi^2 \backslash \nu$	1	2	3	4	5	6	7	8	9	10
3.0	0.916735	0.776870	0.608375	0.442175	0.300014	0.191153	0.114998	0.065642	0.035705	0.018576
3.2	0.926362	0.798103	0.638195	0.475069	0.330817	0.216642	0.134095	0.078813	0.044165	0.023682
3.4	0.934804	0.817316	0.666035	0.506754	0.361430	0.242777	0.154299	0.093189	0.053692	0.029615
3.6	0.942220	0.834701	0.691978	0.537163	0.391687	0.269379	0.175477	0.108708	0.064284	0.036407
3.8	0.948747	0.850431	0.716114	0.566251	0.421445	0.296280	0.197496	0.125298	0.075924	0.044081
4.0	0.954500	0.864665	0.738536	0.593994	0.450584	0.323324	0.220223	0.142877	0.088587	0.052653
4.2	0.959576	0.877544	0.759338	0.620385	0.479005	0.350369	0.243525	0.161357	0.102237	0.062126
4.4	0.964061	0.889197	0.778615	0.645430	0.506626	0.377286	0.267277	0.180648	0.116829	0.072496
4.6	0.968028	0.899741	0.796458	0.669146	0.533384	0.403961	0.291355	0.200653	0.132308	0.083751
4.8	0.971540	0.909282	0.812958	0.691559	0.559227	0.430291	0.315645	0.221277	0.148617	0.095869
5.0	0.974653	0.917915	0.828203	0.712703	0.584120	0.456187	0.340037	0.242424	0.165692	0.108822
5.2	0.977413	0.925726	0.842276	0.732615	0.608037	0.481570	0.364429	0.263998	0.183463	0.122577
5.4	0.979863	0.932794	0.855256	0.751340	0.630964	0.506376	0.388728	0.285908	0.201861	0.137092
5.6	0.982040	0.939190	0.867222	0.768922	0.652895	0.530546	0.412849	0.308063	0.220812	0.152324
5.8	0.983974	0.944977	0.878243	0.785409	0.673831	0.554037	0.436713	0.330377	0.240244	0.168223
6.0	0.985694	0.950213	0.888390	0.800852	0.693781	0.576810	0.460251	0.352768	0.260082	0.184737
6.2	0.987225	0.954951	0.897725	0.815298	0.712758	0.598837	0.483400	0.375160	0.280253	0.201811
6.4	0.988588	0.959238	0.906309	0.828799	0.730781	0.620096	0.506105	0.397480	0.300687	0.219387
6.6	0.989802	0.963117	0.914199	0.841402	0.747872	0.640574	0.528320	0.419662	0.321314	0.237410
6.8	0.990884	0.966627	0.921447	0.853158	0.764055	0.660260	0.550003	0.441643	0.342067	0.255818
7.0	0.991849	0.969803	0.928102	0.864112	0.779360	0.679153	0.571120	0.463367	0.362881	0.274555
7.2	0.992710	0.972676	0.934211	0.874311	0.793814	0.697253	0.591643	0.484784	0.383695	0.293562
7.4	0.993478	0.975276	0.939816	0.883799	0.807450	0.714567	0.611548	0.505847	0.404451	0.312781
7.6	0.994163	0.977629	0.944956	0.892620	0.820298	0.731103	0.630818	0.526515	0.425097	0.332156
7.8	0.994775	0.979758	0.949669	0.900815	0.832392	0.746875	0.649440	0.546753	0.445580	0.351635
8.0	0.995322	0.981684	0.953988	0.908422	0.843764	0.761897	0.667406	0.566530	0.465854	0.371163
8.2	0.995811	0.983427	0.957946	0.915479	0.854448	0.776186	0.684711	0.585818	0.485876	0.390692
8.4	0.996248	0.985004	0.961571	0.922023	0.864475	0.789762	0.701354	0.604597	0.505608	0.410173
8.6	0.996638	0.986431	0.964890	0.928087	0.873878	0.802645	0.717336	0.622846	0.525014	0.429562
8.8	0.996988	0.987723	0.967928	0.933702	0.882688	0.814858	0.732664	0.640552	0.544063	0.448816
9.0	0.997300	0.988891	0.970709	0.938901	0.890936	0.826422	0.747344	0.657704	0.562726	0.467896
9.2	0.997580	0.989948	0.973253	0.943710	0.898652	0.837361	0.761386	0.674294	0.580979	0.486766
9.4	0.997830	0.990905	0.975581	0.948157	0.905866	0.847700	0.774801	0.690316	0.598801	0.505391
9.6	0.998054	0.991770	0.977709	0.952267	0.912604	0.857461	0.787603	0.705770	0.616173	0.523741
9.8	0.998255	0.992553	0.979655	0.956065	0.918895	0.866669	0.799807	0.720655	0.633082	0.541788
10.0	0.998435	0.993262	0.981434	0.959572	0.924765	0.875348	0.811427	0.734974	0.649515	0.559507
10.5	0.998806	0.994752	0.985239	0.967203	0.937754	0.894886	0.838036	0.768330	0.688458	0.602226
11.0	0.999089	0.995913	0.988274	0.973436	0.948620	0.911624	0.861381	0.798301	0.724291	0.642482
11.5	0.999304	0.996817	0.990692	0.978516	0.957680	0.925901	0.881752	0.825055	0.757014	0.680089
12.0	0.999468	0.997521	0.992617	0.982649	0.965212	0.938031	0.899441	0.848796	0.786691	0.714943
12.5	0.999593	0.998070	0.994147	0.986004	0.971457	0.948300	0.914731	0.869750	0.813434	0.747015
13.0	0.999689	0.998497	0.995363	0.988724	0.976621	0.956964	0.927892	0.888150	0.837394	0.776328
13.5	0.999761	0.998829	0.996329	0.990926	0.980882	0.964252	0.939177	0.904235	0.858744	0.802957
14.0	0.999817	0.999088	0.997095	0.992705	0.984391	0.970364	0.948819	0.918235	0.877675	0.827008
14.5	0.999860	0.999290	0.997702	0.994141	0.987273	0.975477	0.957030	0.930371	0.894382	0.848618
15.0	0.999892	0.999447	0.998183	0.995299	0.989638	0.979743	0.964001	0.940855	0.909064	0.867938
15.5	0.999917	0.999569	0.998564	0.996231	0.991573	0.983295	0.969902	0.949878	0.921914	0.885132
16.0	0.999937	0.999665	0.998866	0.996981	0.993156	0.986246	0.974884	0.957620	0.933118	0.900368
16.5	0.999951	0.999739	0.999105	0.997583	0.994448	0.988692	0.979079	0.964242	0.942854	0.913814
17.0	0.999963	0.999797	0.999293	0.998067	0.995500	0.990717	0.982604	0.969891	0.951284	0.925636

本表对于自由度 ν 和 χ^2 给出 χ^2 分布函数 $P(\chi^2; \nu)$ 的数值。

例：对于 $\nu = 5$ 和 $\chi^2 = 7.4$ ， $P(\chi^2; \nu) = 0.807450$ 。

1 χ^2 分布函数表

$$P(\chi^2; \nu) = \int_0^{\chi^2} \frac{1}{2\Gamma(\nu/2)} (\chi^2/2)^{\nu/2-1} e^{-\chi^2/2} d\chi^2$$



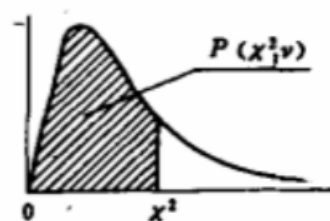
$\chi^2 \backslash \nu$	11	12	13	14	15	16	17	18	19	20
3.0	0.009274	0.004456	0.002066	0.000926	0.000402	0.000170	0.000070	0.000028	0.000011	0.000004
3.2	0.012190	0.006040	0.002888	0.001336	0.000599	0.000260	0.000110	0.000045	0.000018	0.000007
3.4	0.015685	0.007999	0.003938	0.001875	0.000865	0.000388	0.000169	0.000072	0.000030	0.000012
3.6	0.019806	0.010378	0.005250	0.002569	0.001219	0.000562	0.000252	0.000110	0.000047	0.000019
3.8	0.024594	0.013219	0.006861	0.003446	0.001678	0.000793	0.000365	0.000163	0.000071	0.000030
4.0	0.030083	0.016564	0.008809	0.004534	0.002263	0.001097	0.000517	0.000237	0.000106	0.000046
4.2	0.036303	0.020449	0.011128	0.005862	0.002995	0.001486	0.000717	0.000337	0.000155	0.000069
4.4	0.043276	0.024910	0.013855	0.007461	0.003897	0.001978	0.000976	0.000470	0.000220	0.000101
4.6	0.051018	0.029976	0.017023	0.009362	0.004994	0.002589	0.001306	0.000642	0.000308	0.000144
4.8	0.059536	0.035673	0.020664	0.011594	0.006311	0.003339	0.001719	0.000862	0.000422	0.000202
5.0	0.068833	0.042021	0.024807	0.014187	0.007874	0.004247	0.002229	0.001140	0.000569	0.000277
5.2	0.078905	0.049037	0.029478	0.017170	0.009707	0.005334	0.002853	0.001487	0.000756	0.000376
5.4	0.089740	0.056732	0.034699	0.020569	0.011836	0.006621	0.003606	0.001914	0.000991	0.000501
5.6	0.101323	0.065110	0.040492	0.024411	0.014288	0.008131	0.004505	0.002433	0.001282	0.000660
5.8	0.113630	0.074174	0.046870	0.028717	0.017085	0.009885	0.005568	0.003058	0.001639	0.000858
6.0	0.126636	0.083918	0.053847	0.033509	0.020252	0.011905	0.006814	0.003803	0.002072	0.001102
6.2	0.140308	0.094334	0.061430	0.038804	0.023811	0.014213	0.008262	0.004683	0.002591	0.001401
6.4	0.154612	0.105408	0.069623	0.044619	0.027783	0.016830	0.009931	0.005714	0.003210	0.001762
6.6	0.169510	0.117123	0.078427	0.050966	0.032185	0.019777	0.011839	0.006912	0.003940	0.002195
6.8	0.184959	0.129458	0.087838	0.057853	0.037036	0.023074	0.014006	0.008293	0.004794	0.002709
7.0	0.200916	0.142386	0.097848	0.065288	0.042350	0.026739	0.016451	0.009874	0.005787	0.003315
7.2	0.217337	0.155881	0.108447	0.073273	0.048140	0.030789	0.019192	0.011671	0.006932	0.004024
7.4	0.234172	0.169912	0.119621	0.081809	0.054415	0.035241	0.022246	0.013703	0.008244	0.004848
7.6	0.251376	0.184444	0.131351	0.090892	0.061183	0.040107	0.025631	0.015984	0.009737	0.005799
7.8	0.268900	0.199442	0.143619	0.100517	0.068450	0.045402	0.029362	0.018533	0.011427	0.006890
8.0	0.286696	0.214870	0.156400	0.110674	0.076217	0.051134	0.033453	0.021363	0.013329	0.008132
8.2	0.304716	0.230688	0.169669	0.121352	0.084486	0.057312	0.037919	0.024492	0.015457	0.009540
8.4	0.322913	0.246857	0.183400	0.132536	0.093253	0.063943	0.042770	0.027932	0.017826	0.011127
8.6	0.341240	0.263337	0.197562	0.144210	0.102513	0.071032	0.048019	0.031698	0.020451	0.012906
8.8	0.359653	0.280088	0.212125	0.156355	0.112260	0.078579	0.053672	0.035803	0.023344	0.014890
9.0	0.378108	0.297070	0.227056	0.168949	0.122483	0.086586	0.059738	0.040257	0.026521	0.017093
9.2	0.396563	0.314240	0.242324	0.181971	0.133170	0.095051	0.066222	0.045072	0.029992	0.019527
9.4	0.414978	0.331562	0.257893	0.195395	0.144308	0.103969	0.073129	0.050256	0.033771	0.022206
9.6	0.433315	0.348994	0.273729	0.209195	0.155881	0.113334	0.080459	0.055817	0.037867	0.025141
9.8	0.451538	0.366499	0.289798	0.223345	0.167872	0.123138	0.088213	0.061761	0.042292	0.028345
10.0	0.469613	0.384039	0.306066	0.237817	0.180260	0.133372	0.096390	0.068094	0.047054	0.031828
10.5	0.513950	0.427817	0.347375	0.275209	0.212833	0.160753	0.118654	0.085641	0.060485	0.041826
11.0	0.556737	0.471081	0.389182	0.313964	0.247406	0.190515	0.143436	0.105643	0.076162	0.053777
11.5	0.597626	0.513377	0.430994	0.353613	0.283588	0.222377	0.170576	0.128052	0.094128	0.067788
12.0	0.636357	0.554320	0.472356	0.393697	0.320971	0.256020	0.199863	0.152763	0.114375	0.083924
12.5	0.672744	0.593596	0.512869	0.433785	0.359144	0.291096	0.231039	0.179621	0.136844	0.102207
13.0	0.706675	0.630959	0.552188	0.473476	0.397702	0.327242	0.263814	0.208427	0.161429	0.122616
13.5	0.738096	0.666231	0.590027	0.512415	0.436263	0.364092	0.297876	0.238944	0.187980	0.145084
14.0	0.767007	0.699292	0.626156	0.550289	0.474471	0.401286	0.332898	0.270909	0.216309	0.169504
14.5	0.793450	0.730076	0.660403	0.586837	0.512005	0.438482	0.368553	0.304036	0.246197	0.195732
15.0	0.817503	0.758564	0.692647	0.621845	0.548583	0.475361	0.404518	0.338033	0.277403	0.223592
15.5	0.839269	0.784775	0.722814	0.655148	0.583964	0.511633	0.440485	0.372602	0.309667	0.252881
16.0	0.858869	0.808764	0.750870	0.686626	0.617948	0.547039	0.476165	0.407453	0.342722	0.283376
16.5	0.876440	0.830607	0.776820	0.716198	0.650379	0.581358	0.511293	0.442305	0.376299	0.314839
17.0	0.892124	0.850403	0.800696	0.743822	0.681136	0.614403	0.545634	0.476895	0.410132	0.347026

本表对于自由度 ν 和 χ^2 给出 χ^2 分布函数 $P(\chi^2; \nu)$ 的数值。

例：对于 $\nu=20$ 和 $\chi^2=10$ ， $P(\chi^2; \nu)=0.031828$ 。

1 χ^2 分布函数表

$$P(\chi^2; \nu) = \int_0^{\chi^2} \frac{1}{2\Gamma(\nu/2)} (\chi^2/2)^{\nu/2-1} e^{-\chi^2/2} d\chi^2$$



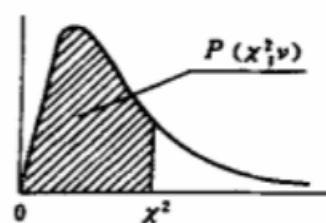
$\chi^2 \backslash \nu$	21	22	23	24	25	26	27	28	29	30
3.0	0.000002	0.000001	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
3.2	0.000003	0.000001	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
3.4	0.000005	0.000002	0.000001	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
3.6	0.000008	0.000003	0.000001	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
3.8	0.000013	0.000005	0.000002	0.000001	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
4.0	0.000020	0.000008	0.000003	0.000001	0.000001	0.000000	0.000000	0.000000	0.000000	0.000000
4.2	0.000030	0.000013	0.000005	0.000002	0.000001	0.000000	0.000000	0.000000	0.000000	0.000000
4.4	0.000045	0.000020	0.000008	0.000004	0.000001	0.000001	0.000000	0.000000	0.000000	0.000000
4.6	0.000066	0.000029	0.000013	0.000006	0.000002	0.000001	0.000000	0.000000	0.000000	0.000000
4.8	0.000094	0.000043	0.000019	0.000008	0.000004	0.000002	0.000001	0.000000	0.000000	0.000000
5.0	0.000132	0.000062	0.000028	0.000013	0.000006	0.000002	0.000001	0.000000	0.000000	0.000000
5.2	0.000182	0.000087	0.000040	0.000018	0.000008	0.000004	0.000002	0.000001	0.000000	0.000000
5.4	0.000248	0.000120	0.000057	0.000026	0.000012	0.000005	0.000002	0.000001	0.000000	0.000000
5.6	0.000332	0.000164	0.000079	0.000037	0.000017	0.000008	0.000004	0.000002	0.000001	0.000000
5.8	0.000439	0.000220	0.000108	0.000052	0.000025	0.000011	0.000005	0.000002	0.000001	0.000000
6.0	0.000574	0.000292	0.000146	0.000071	0.000034	0.000016	0.000007	0.000003	0.000002	0.000001
6.2	0.000741	0.000383	0.000194	0.000097	0.000047	0.000023	0.000011	0.000005	0.000002	0.000001
6.4	0.000946	0.000497	0.000256	0.000129	0.000064	0.000031	0.000015	0.000007	0.000003	0.000001
6.6	0.001196	0.000638	0.000333	0.000171	0.000086	0.000042	0.000021	0.000010	0.000005	0.000002
6.8	0.001497	0.000810	0.000430	0.000223	0.000114	0.000057	0.000028	0.000014	0.000006	0.000003
7.0	0.001858	0.001019	0.000548	0.000289	0.000150	0.000076	0.000038	0.000019	0.000009	0.000004
7.2	0.002286	0.001271	0.000693	0.000370	0.000194	0.000100	0.000051	0.000025	0.000012	0.000006
7.4	0.002790	0.001572	0.000868	0.000470	0.000250	0.000130	0.000067	0.000034	0.000017	0.000008
7.6	0.003380	0.001929	0.001079	0.000592	0.000319	0.000168	0.000088	0.000045	0.000022	0.000011
7.8	0.004065	0.002349	0.001330	0.000739	0.000403	0.000216	0.000113	0.000059	0.000030	0.000015
8.0	0.004856	0.002840	0.001628	0.000915	0.000505	0.000274	0.000146	0.000076	0.000039	0.000020
8.2	0.005763	0.003410	0.001978	0.001125	0.000628	0.000345	0.000186	0.000098	0.000051	0.000026
8.4	0.006798	0.004069	0.002387	0.001374	0.000776	0.000431	0.000235	0.000126	0.000066	0.000034
8.6	0.007973	0.004825	0.002863	0.001666	0.000952	0.000534	0.000295	0.000160	0.000085	0.000045
8.8	0.009298	0.005688	0.003412	0.002008	0.001160	0.000658	0.000367	0.000201	0.000109	0.000058
9.0	0.010786	0.006669	0.004043	0.002404	0.001404	0.000805	0.000454	0.000252	0.000137	0.000074
9.2	0.012449	0.007777	0.004763	0.002863	0.001689	0.000979	0.000558	0.000312	0.000172	0.000093
9.4	0.014299	0.009022	0.005583	0.003389	0.002020	0.001183	0.000681	0.000385	0.000215	0.000118
9.6	0.016347	0.010417	0.006510	0.003992	0.002403	0.001422	0.000827	0.000473	0.000266	0.000147
9.8	0.018607	0.011971	0.007553	0.004677	0.002844	0.001699	0.000997	0.000576	0.000327	0.000183
10.0	0.021088	0.013695	0.008723	0.005453	0.003347	0.002019	0.001197	0.000698	0.000401	0.000226
10.5	0.028338	0.018823	0.012265	0.007845	0.004927	0.003041	0.001846	0.001102	0.000647	0.000374
11.0	0.037213	0.025251	0.016812	0.010988	0.007054	0.004451	0.002761	0.001685	0.001012	0.000599
11.5	0.047856	0.033137	0.022517	0.015023	0.009847	0.006344	0.004019	0.002505	0.001537	0.000928
12.0	0.060382	0.042621	0.029529	0.020092	0.013432	0.008827	0.005706	0.003628	0.002271	0.001400
12.5	0.074874	0.053824	0.037987	0.026333	0.017939	0.012015	0.007916	0.005132	0.003275	0.002059
13.0	0.091376	0.066839	0.048010	0.033880	0.023499	0.016027	0.010753	0.007100	0.004616	0.002956
13.5	0.109896	0.081728	0.059699	0.042850	0.030236	0.020982	0.014326	0.009627	0.006370	0.004152
14.0	0.130401	0.098521	0.073129	0.053350	0.038268	0.027000	0.018745	0.012811	0.008623	0.005717
14.5	0.152820	0.117212	0.088346	0.065460	0.047699	0.034193	0.024123	0.016756	0.011463	0.007726
15.0	0.177048	0.137762	0.105366	0.079241	0.058617	0.042666	0.030568	0.021565	0.014985	0.010260
15.5	0.202946	0.160097	0.124177	0.094727	0.071093	0.052509	0.038181	0.027340	0.019287	0.013408
16.0	0.230349	0.184114	0.144731	0.111924	0.085171	0.063797	0.047053	0.034181	0.024464	0.017257
16.5	0.259067	0.209680	0.166956	0.130811	0.100876	0.076588	0.057264	0.042177	0.030612	0.021900
17.0	0.288894	0.236638	0.190748	0.151338	0.118206	0.090917	0.068878	0.051411	0.037819	0.027425

本表对于自由度 ν 和 χ^2 给出 χ^2 分布函数 $P(\chi^2; \nu)$ 的数值。

例：对于 $\nu=24$ 和 $\chi^2=17.0$ ， $P(\chi^2; \nu)=0.151338$ 。

1 χ^2 分布函数表

$$P(\chi^2; \nu) = \int_0^{\chi^2} \frac{1}{2\Gamma(\nu/2)} (\chi^2/2)^{\nu/2-1} e^{-\chi^2/2} d\chi^2$$



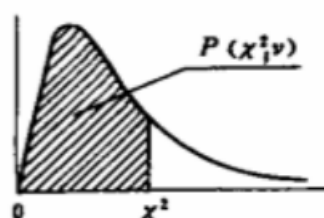
$\chi^2 \backslash \nu$	32	34	36	38	40	42	44	46	48	50
3.0	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
3.2	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
3.4	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
3.6	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
3.8	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
4.0	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
4.2	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
4.4	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
4.6	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
4.8	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
5.0	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
5.2	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
5.4	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
5.6	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
5.8	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
6.0	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
6.2	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
6.4	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
6.6	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
6.8	0.000001	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
7.0	0.000001	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
7.2	0.000001	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
7.4	0.000002	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
7.6	0.000003	0.000001	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
7.8	0.000004	0.000001	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
8.0	0.000005	0.000001	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
8.2	0.000007	0.000002	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
8.4	0.000009	0.000002	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
8.6	0.000012	0.000003	0.000001	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
8.8	0.000016	0.000004	0.000001	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
9.0	0.000020	0.000005	0.000001	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
9.2	0.000026	0.000007	0.000002	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
9.4	0.000034	0.000009	0.000002	0.000001	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
9.6	0.000043	0.000012	0.000003	0.000001	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
9.8	0.000055	0.000015	0.000004	0.000001	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
10.0	0.000069	0.000020	0.000005	0.000001	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
10.5	0.000120	0.000036	0.000010	0.000003	0.000001	0.000000	0.000000	0.000000	0.000000	0.000000
11.0	0.000200	0.000063	0.000019	0.000005	0.000001	0.000000	0.000000	0.000000	0.000000	0.000000
11.5	0.000324	0.000107	0.000033	0.000010	0.000003	0.000001	0.000000	0.000000	0.000000	0.000000
12.0	0.000509	0.000175	0.000057	0.000018	0.000005	0.000001	0.000000	0.000000	0.000000	0.000000
12.5	0.000778	0.000278	0.000094	0.000030	0.000009	0.000003	0.000001	0.000000	0.000000	0.000000
13.0	0.001160	0.000430	0.000151	0.000051	0.000016	0.000005	0.000001	0.000000	0.000000	0.000000
13.5	0.001689	0.000649	0.000237	0.000082	0.000027	0.000009	0.000003	0.000001	0.000000	0.000000
14.0	0.002407	0.000958	0.000362	0.000130	0.000044	0.000014	0.000005	0.000001	0.000000	0.000000
14.5	0.003361	0.001384	0.000540	0.000201	0.000071	0.000024	0.000008	0.000002	0.000001	0.000000
15.0	0.004608	0.001959	0.000790	0.000303	0.000111	0.000039	0.000013	0.000004	0.000001	0.000000
15.5	0.006209	0.002722	0.001133	0.000448	0.000169	0.000061	0.000021	0.000007	0.000002	0.000001
16.0	0.008231	0.003718	0.001594	0.000650	0.000253	0.000094	0.000033	0.000011	0.000004	0.000001
16.5	0.010747	0.004996	0.002206	0.000927	0.000371	0.000142	0.000052	0.000018	0.000006	0.000002
17.0	0.013833	0.006613	0.003002	0.001297	0.000535	0.000211	0.000079	0.000029	0.000010	0.000003

本表对于自由度 ν 和 χ^2 给出 χ^2 分布函数 $P(\chi^2; \nu)$ 的数值。

例：对于 $\nu = 38$ 和 $\chi^2 = 15.5$ ， $P(\chi^2; \nu) = 0.000448$ 。

1 χ^2 分布函数表

$$P(\chi^2; \nu) = \int_0^{\chi^2} \frac{1}{2\Gamma(\nu/2)} (\chi^2/2)^{\nu/2-1} e^{-\chi^2/2} d\chi^2$$



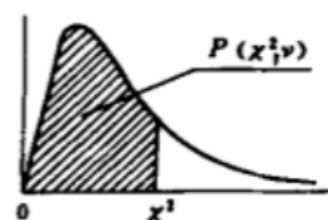
χ^2	1	2	3	4	5	6	7	8	9	10
16	0.999937	0.999665	0.998866	0.996981	0.993156	0.986246	0.974884	0.957620	0.933118	0.900368
17	0.999963	0.999797	0.999293	0.998067	0.995500	0.990717	0.982604	0.969891	0.951284	0.925636
18	0.999978	0.999877	0.999560	0.998766	0.997054	0.993768	0.988030	0.978774	0.964826	0.945036
19	0.999987	0.999925	0.999727	0.999214	0.998078	0.995836	0.991813	0.985140	0.974807	0.959737
20	0.999992	0.999955	0.999830	0.999501	0.998750	0.997231	0.994430	0.989664	0.982088	0.970747
21	0.999995	0.999972	0.999895	0.999683	0.999190	0.998165	0.996230	0.992853	0.987350	0.978906
22	0.999997	0.999983	0.999935	0.999800	0.999476	0.998789	0.997460	0.995084	0.991121	0.984895
23	0.999998	0.999990	0.999960	0.999873	0.999662	0.999204	0.998295	0.996636	0.993804	0.989253
24	0.999999	0.999994	0.999975	0.999920	0.999783	0.999478	0.998861	0.997708	0.995699	0.992400
25	0.999999	0.999996	0.999985	0.999950	0.999861	0.999659	0.999241	0.998445	0.997029	0.994654
26	1.000000	0.999998	0.999990	0.999968	0.999911	0.999777	0.999496	0.998950	0.997957	0.996260
27	1.000000	0.999999	0.999994	0.999980	0.999943	0.999855	0.999667	0.999293	0.998601	0.997396
28	1.000000	0.999999	0.999996	0.999988	0.999964	0.999906	0.999780	0.999526	0.999046	0.998195
29	1.000000	0.999999	0.999998	0.999992	0.999977	0.999939	0.999855	0.999683	0.999352	0.998754
30	1.000000	1.000000	0.999999	0.999995	0.999985	0.999961	0.999905	0.999789	0.999561	0.999143
31	1.000000	1.000000	0.999999	0.999997	0.999991	0.999975	0.999938	0.999859	0.999704	0.999413
32	1.000000	1.000000	0.999999	0.999998	0.999994	0.999984	0.999959	0.999907	0.999801	0.999600
33	1.000000	1.000000	1.000000	0.999999	0.999996	0.999990	0.999974	0.999938	0.999866	0.999728
34	1.000000	1.000000	1.000000	0.999999	0.999998	0.999993	0.999983	0.999959	0.999911	0.999815
35	1.000000	1.000000	1.000000	1.000000	0.999998	0.999996	0.999989	0.999973	0.999940	0.999875
36	1.000000	1.000000	1.000000	1.000000	0.999999	0.999997	0.999993	0.999982	0.999960	0.999916
37	1.000000	1.000000	1.000000	1.000000	0.999999	0.999998	0.999995	0.999988	0.999974	0.999943
38	1.000000	1.000000	1.000000	1.000000	1.000000	0.999999	0.999997	0.999992	0.999983	0.999962
39	1.000000	1.000000	1.000000	1.000000	1.000000	0.999999	0.999998	0.999995	0.999988	0.999975
40	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	0.999999	0.999997	0.999992	0.999983
41	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	0.999999	0.999998	0.999995	0.999989
42	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	0.999999	0.999999	0.999997	0.999993
43	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	0.999999	0.999998	0.999995
44	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	0.999999	0.999999	0.999997
45	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	0.999999	0.999998
46	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	0.999999	0.999999
47	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	0.999999
48	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	0.999999
49	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
50	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
51	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
52	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
53	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
54	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
55	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
56	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
57	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
58	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
59	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
60	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
61	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
62	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
63	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
64	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
65	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000

本表对于自由度 ν 和 χ^2 给出 χ^2 分布函数 $P(\chi^2; \nu)$ 的数值。

例：对于 $\nu=6$ 和 $\chi^2=35$ ， $P(\chi^2; \nu)=0.999996$ 。

1 χ^2 分布函数表

$$P(\chi^2; \nu) = \int_0^{\chi^2} \frac{1}{2\Gamma(\nu/2)} (\chi^2/2)^{\nu/2-1} e^{-\chi^2/2} d\chi^2$$



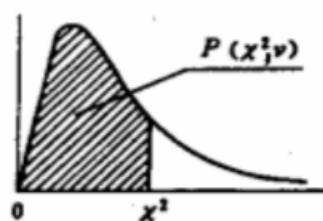
$\chi^2 \backslash \nu$	11	12	13	14	15	16	17	18	19	20
16	0.858869	0.808764	0.750870	0.686626	0.617948	0.547039	0.476165	0.407453	0.342722	0.283376
17	0.892124	0.850403	0.800696	0.743822	0.681136	0.614403	0.545634	0.476895	0.410132	0.347026
18	0.918419	0.884309	0.842481	0.793219	0.737334	0.676103	0.611159	0.544347	0.477562	0.412592
19	0.938906	0.911472	0.876896	0.835051	0.786266	0.731337	0.671468	0.608177	0.543164	0.478174
20	0.954659	0.932914	0.904790	0.869859	0.828067	0.779779	0.725771	0.667180	0.605422	0.542070
21	0.966629	0.949620	0.927071	0.898367	0.863171	0.821489	0.773710	0.720587	0.663199	0.602867
22	0.975627	0.962480	0.944638	0.921386	0.892196	0.856808	0.815281	0.768015	0.715744	0.659489
23	0.982325	0.972274	0.958324	0.939730	0.915860	0.886265	0.850749	0.809410	0.762658	0.711205
24	0.987267	0.979659	0.968870	0.954178	0.934907	0.910496	0.880565	0.844972	0.803848	0.757608
25	0.990883	0.985177	0.976916	0.964533	0.950057	0.930175	0.905290	0.875084	0.839458	0.798569
26	0.993510	0.989266	0.982999	0.974113	0.961977	0.945972	0.925539	0.900242	0.869811	0.834188
27	0.995405	0.992273	0.987559	0.980746	0.971264	0.958517	0.941932	0.921005	0.895347	0.864736
28	0.996763	0.994468	0.990950	0.985772	0.978431	0.968380	0.955062	0.937945	0.916571	0.890601
29	0.997730	0.996060	0.993454	0.989550	0.983915	0.976064	0.965474	0.951621	0.934015	0.912241
30	0.998415	0.997208	0.995290	0.992368	0.988079	0.981998	0.973655	0.962554	0.948202	0.930146
31	0.998898	0.998030	0.996628	0.994456	0.991215	0.986544	0.980028	0.971213	0.959627	0.944810
32	0.999237	0.998616	0.997598	0.995994	0.993562	0.990000	0.984952	0.978013	0.968745	0.956702
33	0.999474	0.999032	0.998296	0.997119	0.995306	0.992610	0.988728	0.983310	0.975960	0.966259
34	0.999638	0.999325	0.998796	0.997938	0.996595	0.994567	0.991604	0.987404	0.981622	0.973875
35	0.999752	0.999532	0.999153	0.998530	0.997541	0.996026	0.993779	0.990548	0.986033	0.979896
36	0.999831	0.999676	0.999407	0.998957	0.998232	0.997107	0.995413	0.992944	0.989444	0.984619
37	0.999885	0.999777	0.999586	0.999262	0.998734	0.997903	0.996635	0.994759	0.992065	0.988298
38	0.999922	0.999846	0.999712	0.999480	0.999098	0.998487	0.997542	0.996127	0.994065	0.991144
39	0.999947	0.999895	0.999800	0.999635	0.999359	0.998912	0.998213	0.997150	0.995583	0.993333
40	0.999964	0.999928	0.999862	0.999745	0.999547	0.999221	0.998706	0.997913	0.996728	0.995005
41	0.999976	0.999951	0.999905	0.999822	0.999680	0.999445	0.999067	0.998478	0.997587	0.996275
42	0.999984	0.999967	0.999935	0.999876	0.999775	0.999605	0.999329	0.998894	0.998228	0.997234
43	0.999989	0.999977	0.999955	0.999914	0.999843	0.999721	0.999520	0.999200	0.998704	0.997956
44	0.999993	0.999985	0.999969	0.999941	0.999890	0.999803	0.999657	0.999423	0.999056	0.998495
45	0.999995	0.999990	0.999979	0.999959	0.999923	0.999861	0.999756	0.999586	0.999315	0.998897
46	0.999997	0.999993	0.999986	0.999972	0.999947	0.999903	0.999827	0.999703	0.999504	0.999194
47	0.999998	0.999995	0.999990	0.999981	0.999963	0.999932	0.999878	0.999788	0.999643	0.999413
48	0.999999	0.999997	0.999993	0.999987	0.999975	0.999953	0.999914	0.999849	0.999743	0.999575
49	0.999999	0.999998	0.999996	0.999991	0.999982	0.999967	0.999940	0.999893	0.999816	0.999693
50	0.999999	0.999999	0.999997	0.999994	0.999988	0.999977	0.999958	0.999925	0.999869	0.999779
51	1.000000	0.999999	0.999998	0.999996	0.999992	0.999984	0.999970	0.999947	0.999907	0.999841
52	1.000000	0.999999	0.999999	0.999997	0.999994	0.999989	0.999979	0.999963	0.999934	0.999886
53	1.000000	1.000000	0.999999	0.999998	0.999996	0.999992	0.999986	0.999974	0.999953	0.999919
54	1.000000	1.000000	0.999999	0.999999	0.999997	0.999995	0.999990	0.999982	0.999967	0.999942
55	1.000000	1.000000	1.000000	0.999999	0.999998	0.999996	0.999993	0.999987	0.999977	0.999959
56	1.000000	1.000000	1.000000	0.999999	0.999999	0.999998	0.999995	0.999991	0.999984	0.999971
57	1.000000	1.000000	1.000000	1.000000	0.999999	0.999998	0.999997	0.999994	0.999989	0.999979
58	1.000000	1.000000	1.000000	1.000000	0.999999	0.999999	0.999998	0.999996	0.999992	0.999986
59	1.000000	1.000000	1.000000	1.000000	1.000000	0.999999	0.999998	0.999997	0.999994	0.999990
60	1.000000	1.000000	1.000000	1.000000	1.000000	0.999999	0.999999	0.999998	0.999996	0.999993
61	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	0.999999	0.999999	0.999997	0.999995
62	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	0.999999	0.999998	0.999997
63	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	0.999999	0.999999	0.999998
64	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	0.999999	0.999998
65	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	0.999999	0.999999

本表对于自由度 ν 和 χ^2 给出 χ^2 分布函数 $P(\chi^2; \nu)$ 的数值。

例：对于 $\nu=14$ 和 $\chi^2=19$ ， $P(\chi^2; \nu)=0.835051$ 。

1 χ^2 分布函数表

$$P(\chi^2; \nu) = \int_0^{\chi^2} \frac{1}{2\Gamma(\nu/2)} (\chi^2/2)^{\nu/2-1} e^{-\chi^2/2} d\chi^2$$



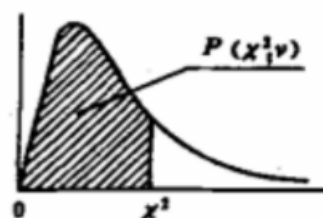
$\chi^2 \backslash \nu$	21	22	23	24	25	26	27	28	29	30
16	0.230349	0.184114	0.144731	0.111924	0.085171	0.063797	0.047053	0.034181	0.024464	0.017257
17	0.288894	0.236638	0.190748	0.151338	0.118206	0.090917	0.068878	0.051411	0.037819	0.027425
18	0.350996	0.294012	0.242511	0.196992	0.157609	0.124227	0.096480	0.073851	0.055728	0.041466
19	0.414860	0.354672	0.298775	0.248010	0.202879	0.163570	0.129999	0.101864	0.078712	0.059992
20	0.478739	0.416960	0.358088	0.303224	0.253175	0.208444	0.169244	0.135536	0.107073	0.083458
21	0.541056	0.479262	0.418912	0.361275	0.307390	0.258036	0.213712	0.174651	0.140851	0.112112
22	0.600490	0.540111	0.479748	0.420733	0.364256	0.311303	0.262623	0.218709	0.179811	0.145956
23	0.656022	0.598270	0.539229	0.480202	0.422437	0.367053	0.314988	0.266960	0.223457	0.184740
24	0.706941	0.652771	0.596192	0.538403	0.480626	0.424035	0.369684	0.318464	0.271068	0.227975
25	0.752836	0.702925	0.649715	0.594239	0.537626	0.481025	0.425538	0.372165	0.321753	0.274968
26	0.793551	0.748318	0.699134	0.646835	0.592401	0.536895	0.481400	0.426955	0.374509	0.324868
27	0.829147	0.788774	0.744032	0.695547	0.644115	0.590667	0.536205	0.481753	0.428295	0.376729
28	0.859849	0.824319	0.784218	0.739960	0.692147	0.641542	0.589026	0.535552	0.482087	0.429563
29	0.885998	0.855139	0.819690	0.779869	0.736084	0.688918	0.639101	0.587472	0.534934	0.482403
30	0.908012	0.881536	0.850598	0.815248	0.775711	0.732389	0.685846	0.636782	0.585996	0.534346
31	0.926342	0.903884	0.877207	0.846217	0.810981	0.771731	0.728861	0.682919	0.634576	0.584593
32	0.941450	0.922604	0.899857	0.873007	0.841988	0.806878	0.767916	0.725489	0.680127	0.632473
33	0.953783	0.938126	0.918933	0.895927	0.868932	0.837902	0.802930	0.764256	0.722261	0.677458
34	0.963761	0.950876	0.934842	0.915331	0.892092	0.864976	0.833953	0.799127	0.760740	0.719167
35	0.971765	0.961255	0.947984	0.931599	0.911797	0.888351	0.861134	0.830133	0.795460	0.757360
36	0.978135	0.969634	0.958747	0.945113	0.928400	0.908331	0.884701	0.857402	0.826436	0.791923
37	0.983166	0.976344	0.967487	0.956240	0.942263	0.925246	0.904933	0.881139	0.853776	0.822856
38	0.987111	0.981678	0.974528	0.965327	0.953739	0.939439	0.922138	0.901601	0.877664	0.850250
39	0.990185	0.985888	0.980159	0.972691	0.963160	0.951245	0.936641	0.919077	0.898336	0.874271
40	0.992563	0.989188	0.984631	0.978613	0.970836	0.960988	0.948763	0.933872	0.916063	0.895136
41	0.994393	0.991759	0.988158	0.983343	0.977043	0.968966	0.958814	0.946294	0.931134	0.913096
42	0.995792	0.993749	0.990922	0.987095	0.982027	0.975451	0.967085	0.956641	0.943841	0.928426
43	0.996857	0.995281	0.993074	0.990053	0.986003	0.980686	0.973841	0.965195	0.954471	0.941404
44	0.997662	0.996453	0.994741	0.992370	0.989155	0.984884	0.979322	0.972215	0.963298	0.952307
45	0.998268	0.997346	0.996025	0.994175	0.991638	0.988229	0.983739	0.977938	0.970576	0.961398
46	0.998722	0.998022	0.997009	0.995573	0.993582	0.990878	0.987277	0.982572	0.976535	0.968926
47	0.999061	0.998532	0.997758	0.996650	0.995097	0.992964	0.990093	0.986301	0.981383	0.975116
48	0.999312	0.998915	0.998327	0.997476	0.996270	0.994598	0.992322	0.989284	0.985302	0.980175
49	0.999498	0.999201	0.998756	0.998106	0.997175	0.995870	0.994076	0.991656	0.988452	0.984282
50	0.999635	0.999414	0.999079	0.998584	0.997869	0.996856	0.995449	0.993533	0.990968	0.987598
51	0.999736	0.999571	0.999320	0.998946	0.998399	0.997616	0.996519	0.995009	0.992968	0.990259
52	0.999809	0.999687	0.999500	0.999218	0.998801	0.998200	0.997348	0.996164	0.994549	0.992383
53	0.999862	0.999773	0.999634	0.999422	0.999106	0.998646	0.997987	0.997064	0.995792	0.994070
54	0.999901	0.999836	0.999732	0.999574	0.999336	0.998985	0.998479	0.997762	0.996765	0.995403
55	0.999929	0.999881	0.999805	0.999687	0.999508	0.999242	0.998854	0.998300	0.997522	0.996450
56	0.999950	0.999914	0.999858	0.999771	0.999637	0.999436	0.999140	0.998714	0.998110	0.997270
57	0.999964	0.999939	0.999898	0.999833	0.999733	0.999581	0.999357	0.999030	0.998563	0.997908
58	0.999974	0.999956	0.999926	0.999878	0.999804	0.999690	0.999521	0.999271	0.998812	0.998403
59	0.999982	0.999969	0.999947	0.999912	0.999857	0.999772	0.999644	0.999454	0.999179	0.998785
60	0.999987	0.999978	0.999962	0.999936	0.999895	0.999832	0.999736	0.999593	0.999382	0.999079
61	0.999991	0.999984	0.999973	0.999954	0.999924	0.999877	0.999805	0.999697	0.999537	0.999305
62	0.999994	0.999989	0.999980	0.999967	0.999945	0.999910	0.999857	0.999775	0.999654	0.999476
63	0.999996	0.999992	0.999986	0.999976	0.999960	0.999935	0.999895	0.999834	0.999742	0.999607
64	0.999997	0.999994	0.999990	0.999983	0.999971	0.999952	0.999923	0.999877	0.999809	0.999706
65	0.999998	0.999996	0.999993	0.999988	0.999979	0.999966	0.999944	0.999910	0.999858	0.999781

本表对于自由度 ν 和 χ^2 给出 χ^2 分布函数 $P(\chi^2; \nu)$ 的数值。

例：对于 $\nu=29$ 和 $\chi^2=50$ ， $P(\chi^2; \nu)=0.990968$ 。

1 χ^2 分布函数表

$$P(\chi^2, \nu) = \int_0^{\chi^2} \frac{1}{2\Gamma(\nu/2)} (\chi^2/2)^{\nu/2-1} e^{-\chi^2/2} d\chi^2$$



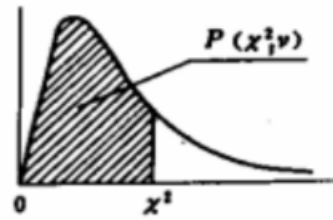
$\chi^2 \backslash \nu$	32	34	36	38	40	42	44	46	48	50
16	0.008231	0.003718	0.001594	0.000650	0.000253	0.000094	0.000033	0.000011	0.000004	0.000001
17	0.013833	0.006613	0.003002	0.001297	0.000535	0.000211	0.000079	0.000029	0.000010	0.000003
18	0.022036	0.011106	0.005320	0.002426	0.001056	0.000439	0.000175	0.000067	0.000025	0.000009
19	0.033473	0.017727	0.008928	0.004284	0.001962	0.000859	0.000361	0.000145	0.000056	0.000021
20	0.048740	0.027042	0.014278	0.007187	0.003454	0.001588	0.000700	0.000296	0.000120	0.000047
21	0.068335	0.039606	0.021862	0.011511	0.005791	0.002788	0.001286	0.000570	0.000242	0.000099
22	0.092604	0.055924	0.032191	0.017687	0.009289	0.004671	0.002252	0.001042	0.000464	0.000199
23	0.121705	0.076399	0.045750	0.026169	0.014318	0.007503	0.003771	0.001821	0.000845	0.000378
24	0.155584	0.101291	0.062966	0.037416	0.021280	0.011598	0.006065	0.003047	0.001473	0.000686
25	0.193971	0.130692	0.084163	0.051852	0.030594	0.017308	0.009400	0.004906	0.002464	0.001192
26	0.236393	0.164507	0.109535	0.069833	0.042669	0.025012	0.014081	0.007622	0.003972	0.001994
27	0.282207	0.202455	0.139122	0.091622	0.057872	0.035091	0.020446	0.011459	0.006184	0.003217
28	0.330640	0.244082	0.172799	0.117357	0.076505	0.047908	0.028844	0.016712	0.009328	0.005020
29	0.380837	0.288792	0.210284	0.147040	0.098776	0.063784	0.039623	0.023699	0.013660	0.007594
30	0.431910	0.335877	0.251141	0.180528	0.124781	0.082971	0.053106	0.032744	0.019465	0.011165
31	0.482989	0.384560	0.294816	0.217536	0.154492	0.105633	0.069570	0.044163	0.027040	0.015982
32	0.533255	0.434038	0.340656	0.257651	0.187751	0.131832	0.089227	0.058241	0.036686	0.022315
33	0.581980	0.483519	0.387954	0.300353	0.224278	0.161516	0.112203	0.075219	0.048686	0.030445
34	0.628546	0.532262	0.435977	0.345042	0.263678	0.194519	0.138534	0.095272	0.063296	0.040646
35	0.672458	0.579596	0.484003	0.391066	0.305466	0.230566	0.168149	0.118499	0.080722	0.053176
36	0.713347	0.624950	0.531352	0.437755	0.349084	0.269280	0.200876	0.144910	0.101110	0.068260
37	0.750972	0.667857	0.577408	0.484447	0.393932	0.310206	0.236447	0.174422	0.124533	0.086077
38	0.785206	0.707966	0.621639	0.530516	0.439393	0.352826	0.274503	0.206861	0.150983	0.106746
39	0.816024	0.745035	0.663606	0.575392	0.484856	0.396583	0.314616	0.241963	0.180366	0.130319
40	0.843487	0.778926	0.702972	0.618578	0.529743	0.440907	0.356302	0.279389	0.212507	0.156773
41	0.867726	0.809596	0.739497	0.659662	0.573525	0.485234	0.399045	0.318733	0.247150	0.186007
42	0.888925	0.837081	0.773037	0.698320	0.615737	0.529026	0.442314	0.359544	0.283971	0.217845
43	0.907305	0.861484	0.803534	0.734316	0.655990	0.571790	0.485585	0.401339	0.322588	0.252039
44	0.923108	0.882960	0.831004	0.767502	0.693973	0.613091	0.528358	0.443625	0.362576	0.288281
45	0.936589	0.901701	0.855526	0.797807	0.729456	0.652560	0.570172	0.485912	0.403484	0.326207
46	0.948002	0.917923	0.877229	0.825231	0.762286	0.689900	0.610619	0.527734	0.444850	0.365419
47	0.957594	0.931857	0.896281	0.849834	0.792386	0.724884	0.649347	0.568660	0.486218	0.405494
48	0.965600	0.943738	0.912874	0.871721	0.819739	0.757361	0.686072	0.608302	0.527150	0.445999
49	0.972238	0.953795	0.927216	0.891039	0.844390	0.787244	0.720575	0.646329	0.567241	0.486505
50	0.977707	0.962252	0.939525	0.907959	0.866425	0.814508	0.752701	0.682467	0.606124	0.526602
51	0.982185	0.969317	0.950015	0.922670	0.885971	0.839179	0.782360	0.716502	0.643486	0.565906
52	0.985830	0.975182	0.958895	0.935371	0.903179	0.861330	0.809517	0.748283	0.679063	0.604073
53	0.988781	0.980021	0.966365	0.946261	0.918222	0.881069	0.834186	0.777713	0.712647	0.640803
54	0.991156	0.983991	0.972610	0.955539	0.931281	0.898532	0.856426	0.804750	0.744087	0.675842
55	0.993059	0.987229	0.977800	0.963394	0.942543	0.913872	0.876328	0.829398	0.773285	0.708990
56	0.994574	0.989857	0.982088	0.970003	0.952193	0.927259	0.894014	0.851702	0.800191	0.740096
57	0.995776	0.991979	0.985612	0.975532	0.960411	0.938865	0.909623	0.871741	0.824801	0.769060
58	0.996725	0.993682	0.988492	0.980131	0.967369	0.948863	0.923308	0.889622	0.847149	0.795826
59	0.997470	0.995044	0.990835	0.983936	0.973225	0.957426	0.935232	0.905472	0.867302	0.820384
60	0.998053	0.996127	0.992730	0.987067	0.978127	0.964715	0.945557	0.919431	0.885354	0.842758
61	0.998506	0.996985	0.994256	0.989631	0.982208	0.970887	0.954444	0.931648	0.901420	0.863004
62	0.998859	0.997662	0.995479	0.991721	0.985588	0.976082	0.962050	0.942278	0.915628	0.881205
63	0.999131	0.998193	0.996455	0.993415	0.988374	0.980434	0.968524	0.951471	0.928117	0.897464
64	0.999340	0.998608	0.997231	0.994782	0.990658	0.984060	0.974005	0.959379	0.939031	0.911899
65	0.999501	0.998932	0.997844	0.995881	0.992523	0.987066	0.978620	0.966143	0.948513	0.924639

本表对于自由度 ν 和 χ^2 给出 χ^2 分布函数 $P(\chi^2, \nu)$ 的数值。

例：对于 $\nu=50$ 和 $\chi^2=38$ ， $P(\chi^2, \nu)=0.106746$ 。

1 χ^2 分布函数表

$$P(\chi^2; \nu) = \int_0^{\chi^2} \frac{1}{2\Gamma(\nu/2)} (\chi^2/2)^{\nu/2-1} e^{-\chi^2/2} d\chi^2$$



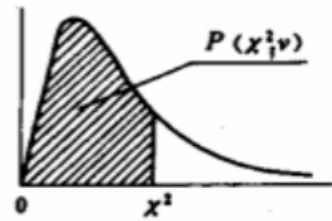
$\chi^2 \backslash \nu$	52	54	56	58	60	62	64	66	68	70
16	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
17	0.000001	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
18	0.000003	0.000001	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
19	0.000007	0.000003	0.000001	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
20	0.000018	0.000006	0.000002	0.000001	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
21	0.000039	0.000015	0.000005	0.000002	0.000001	0.000000	0.000000	0.000000	0.000000	0.000000
22	0.000082	0.000033	0.000013	0.000005	0.000002	0.000001	0.000000	0.000000	0.000000	0.000000
23	0.000163	0.000068	0.000027	0.000011	0.000004	0.000001	0.000001	0.000000	0.000000	0.000000
24	0.000308	0.000133	0.000056	0.000023	0.000009	0.000003	0.000001	0.000000	0.000000	0.000000
25	0.000556	0.000251	0.000109	0.000046	0.000019	0.000007	0.000003	0.000001	0.000000	0.000000
26	0.000966	0.000452	0.000204	0.000089	0.000038	0.000016	0.000006	0.000002	0.000001	0.000000
27	0.001615	0.000783	0.000367	0.000167	0.000073	0.000031	0.000013	0.000005	0.000002	0.000001
28	0.002608	0.001309	0.000635	0.000298	0.000136	0.000060	0.000026	0.000011	0.000004	0.000002
29	0.004077	0.002115	0.001061	0.000515	0.000243	0.000111	0.000049	0.000021	0.000009	0.000004
30	0.006185	0.003312	0.001716	0.000861	0.000418	0.000197	0.000090	0.000040	0.000017	0.000007
31	0.009126	0.005038	0.002692	0.001393	0.000699	0.000340	0.000161	0.000074	0.000033	0.000014
32	0.013119	0.007459	0.004105	0.002189	0.001131	0.000567	0.000276	0.000131	0.000060	0.000027
33	0.018406	0.010766	0.006097	0.003346	0.001780	0.000919	0.000461	0.000225	0.000106	0.000049
34	0.025245	0.015174	0.008834	0.004984	0.002727	0.001448	0.000747	0.000375	0.000183	0.000087
35	0.033894	0.020916	0.012504	0.007247	0.004074	0.002224	0.001179	0.000607	0.000305	0.000149
36	0.044608	0.028234	0.017318	0.010300	0.005944	0.003331	0.001813	0.000960	0.000494	0.000248
37	0.057619	0.037370	0.023496	0.014329	0.008481	0.004875	0.002723	0.001479	0.000782	0.000402
38	0.073126	0.048557	0.031268	0.019536	0.011850	0.006982	0.003998	0.002227	0.001207	0.000637
39	0.091282	0.062004	0.040859	0.026133	0.016231	0.009794	0.005746	0.003279	0.001821	0.000985
40	0.112185	0.077887	0.052481	0.034334	0.021818	0.013475	0.008092	0.004727	0.002688	0.001489
41	0.135869	0.096338	0.066323	0.044348	0.028814	0.018199	0.011179	0.006682	0.003889	0.002204
42	0.162299	0.117435	0.082541	0.056370	0.037419	0.024153	0.015166	0.009269	0.005516	0.003198
43	0.191368	0.141197	0.101247	0.070570	0.047827	0.031528	0.020224	0.012629	0.007681	0.004552
44	0.222901	0.167580	0.122503	0.087086	0.060217	0.040514	0.026531	0.016918	0.010509	0.006362
45	0.256658	0.196471	0.146315	0.106012	0.074742	0.051289	0.034267	0.022299	0.014138	0.008738
46	0.292343	0.227698	0.172631	0.127397	0.091521	0.064017	0.043611	0.028943	0.018721	0.011806
47	0.329614	0.261029	0.201335	0.151235	0.110637	0.078835	0.054727	0.037022	0.024415	0.015701
48	0.368093	0.296181	0.232258	0.177468	0.132124	0.095848	0.067764	0.046701	0.031383	0.020570
49	0.407384	0.332828	0.265175	0.205978	0.155968	0.115126	0.082847	0.058134	0.039786	0.026565
50	0.447079	0.370614	0.299814	0.236599	0.182104	0.136691	0.100068	0.071456	0.049780	0.033842
51	0.486775	0.409165	0.335867	0.269113	0.210416	0.160523	0.119483	0.086778	0.061507	0.042553
52	0.526085	0.448096	0.372996	0.303260	0.240738	0.186553	0.141107	0.104182	0.075089	0.052842
53	0.564648	0.487029	0.410847	0.338746	0.272861	0.214662	0.164912	0.123712	0.090628	0.064841
54	0.602137	0.525597	0.449057	0.375251	0.306535	0.244690	0.190825	0.145377	0.108192	0.078663
55	0.638265	0.563459	0.487269	0.412439	0.341479	0.276433	0.218730	0.169142	0.127819	0.094396
56	0.672789	0.600305	0.525136	0.449967	0.377390	0.309651	0.248468	0.194933	0.149509	0.112101
57	0.705514	0.635859	0.562334	0.487496	0.413948	0.344078	0.279842	0.222632	0.173224	0.131808
58	0.736293	0.669889	0.598567	0.524698	0.450829	0.379422	0.312622	0.252085	0.198885	0.153509
59	0.765022	0.702206	0.633575	0.561266	0.487711	0.415382	0.346553	0.283101	0.226378	0.177163
60	0.791643	0.732663	0.667131	0.596918	0.524283	0.451648	0.381357	0.315459	0.255551	0.202692
61	0.816137	0.761158	0.699052	0.631402	0.560252	0.487916	0.416747	0.348914	0.286219	0.229979
62	0.838521	0.787628	0.729196	0.664502	0.595348	0.523888	0.452428	0.383202	0.318170	0.258877
63	0.858841	0.812049	0.757457	0.696041	0.629331	0.559286	0.488111	0.418047	0.351169	0.289208
64	0.877171	0.834429	0.783772	0.725877	0.661994	0.593852	0.523512	0.453171	0.384963	0.320766
65	0.893603	0.854808	0.808110	0.753907	0.693163	0.627356	0.558365	0.488296	0.419289	0.353326

本表对于自由度 ν 和 χ^2 给出 χ^2 分布函数 $P(\chi^2; \nu)$ 的数值。

例：对于 $\nu=62$ 和 $\chi^2=52$ ， $P(\chi^2; \nu)=0.186553$ 。

1 χ^2 分布函数表

$$P(\chi^2; \nu) = \int_0^{\chi^2} \frac{1}{2\Gamma(\nu/2)} (\chi^2/2)^{\nu/2-1} e^{-\chi^2/2} d\chi^2$$



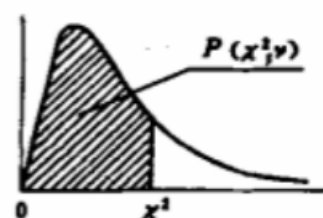
$\chi^2 \backslash \nu$	32	34	36	38	40	42	44	46	48	50
66	0.999623	0.999183	0.998328	0.996760	0.994038	0.989546	0.982487	0.971899	0.956707	0.935819
67	0.999717	0.999377	0.998707	0.997461	0.995264	0.991583	0.985712	0.976772	0.963750	0.945574
68	0.999788	0.999526	0.999004	0.998017	0.996251	0.993249	0.988388	0.980876	0.969771	0.954040
69	0.999841	0.999641	0.999235	0.998456	0.997043	0.994605	0.990599	0.984317	0.974894	0.961348
70	0.999882	0.999729	0.999414	0.998802	0.997675	0.995703	0.992417	0.987187	0.979230	0.967626
71	0.999912	0.999796	0.999553	0.999074	0.998179	0.996590	0.993905	0.989572	0.982884	0.972991
72	0.999935	0.999846	0.999660	0.999286	0.998578	0.997303	0.995119	0.991544	0.985948	0.977554
73	0.999952	0.999885	0.999742	0.999451	0.998893	0.997875	0.996104	0.993167	0.988506	0.981417
74	0.999964	0.999914	0.999805	0.999579	0.999141	0.998330	0.996901	0.994498	0.990632	0.984672
75	0.999974	0.999936	0.999853	0.999679	0.999336	0.998692	0.997543	0.995585	0.992392	0.987403
76	0.999981	0.999952	0.999889	0.999755	0.999487	0.998979	0.998059	0.996469	0.993843	0.989685
77	0.999986	0.999965	0.999917	0.999814	0.999606	0.999205	0.998471	0.997185	0.995034	0.991582
78	0.999990	0.999974	0.999938	0.999859	0.999698	0.999383	0.998799	0.997763	0.996008	0.993154
79	0.999992	0.999981	0.999953	0.999893	0.999769	0.999523	0.999060	0.998228	0.996801	0.994451
80	0.999995	0.999986	0.999965	0.999920	0.999824	0.999632	0.999266	0.998601	0.997445	0.995517
81	0.999996	0.999990	0.999974	0.999940	0.999866	0.999717	0.999429	0.998899	0.997965	0.996390
82	0.999997	0.999992	0.999981	0.999955	0.999898	0.999783	0.999557	0.999135	0.998385	0.997102
83	0.999998	0.999994	0.999986	0.999966	0.999923	0.999834	0.999657	0.999323	0.998722	0.997681
84	0.999999	0.999996	0.999990	0.999975	0.999942	0.999873	0.999735	0.999472	0.998991	0.998150
85	0.999999	0.999997	0.999992	0.999981	0.999956	0.999903	0.999796	0.999589	0.999206	0.998528
86	0.999999	0.999998	0.999994	0.999986	0.999967	0.999927	0.999843	0.999681	0.999377	0.998833
87	0.999999	0.999998	0.999996	0.999990	0.999975	0.999944	0.999880	0.999753	0.999513	0.999077
88	1.000000	0.999999	0.999997	0.999992	0.999982	0.999958	0.999908	0.999809	0.999620	0.999272
89	1.000000	0.999999	0.999998	0.999994	0.999986	0.999968	0.999930	0.999853	0.999704	0.999427
90	1.000000	0.999999	0.999998	0.999996	0.999990	0.999976	0.999947	0.999887	0.999770	0.999551
91	1.000000	1.000000	0.999999	0.999997	0.999992	0.999982	0.999960	0.999913	0.999822	0.999649
92	1.000000	1.000000	0.999999	0.999998	0.999994	0.999987	0.999970	0.999934	0.999862	0.999726
93	1.000000	1.000000	0.999999	0.999998	0.999996	0.999990	0.999977	0.999950	0.999894	0.999787
94	1.000000	1.000000	1.000000	0.999999	0.999997	0.999993	0.999983	0.999962	0.999919	0.999834
95	1.000000	1.000000	1.000000	0.999999	0.999998	0.999994	0.999987	0.999971	0.999938	0.999872
96	1.000000	1.000000	1.000000	0.999999	0.999998	0.999996	0.999990	0.999978	0.999952	0.999901
97	1.000000	1.000000	1.000000	1.000000	0.999999	0.999997	0.999993	0.999983	0.999964	0.999924
98	1.000000	1.000000	1.000000	1.000000	0.999999	0.999998	0.999995	0.999987	0.999972	0.999941
99	1.000000	1.000000	1.000000	1.000000	0.999999	0.999998	0.999996	0.999991	0.999979	0.999955
100	1.000000	1.000000	1.000000	1.000000	1.000000	0.999999	0.999997	0.999993	0.999984	0.999965
102	1.000000	1.000000	1.000000	1.000000	1.000000	0.999999	0.999998	0.999996	0.999991	0.999980
104	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	0.999999	0.999998	0.999995	0.999988
106	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	0.999999	0.999997	0.999993
108	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	0.999999	0.999998	0.999996
110	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	0.999999	0.999998
112	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	0.999999
114	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	0.999999
116	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
118	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
120	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
122	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
124	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
126	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
128	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
130	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000

本表对于自由度 ν 和 χ^2 给出 χ^2 分布函数 $P(\chi^2; \nu)$ 的数值。

例：对于 $\nu=40$ 和 $\chi^2=76$ ， $P(\chi^2; \nu)=0.999487$ 。

1 χ^2 分布函数表

$$P(\chi^2; \nu) = \int_0^{\chi^2} \frac{1}{2\Gamma(\nu/2)} (\chi^2/2)^{\nu/2-1} e^{-\chi^2/2} d\chi^2$$



$\chi^2 \backslash \nu$	52	54	56	58	60	62	64	66	68	70
66	0.908246	0.873249	0.830475	0.780064	0.722699	0.659597	0.592424	0.523153	0.453881	0.386646
67	0.921217	0.889835	0.850898	0.804313	0.750499	0.690407	0.625468	0.557486	0.488473	0.420476
68	0.932644	0.904666	0.869434	0.826653	0.776495	0.719650	0.657303	0.591060	0.522809	0.454559
69	0.942656	0.917852	0.886158	0.847107	0.800650	0.747223	0.687765	0.623662	0.556645	0.488643
70	0.951380	0.929510	0.901160	0.865723	0.822955	0.773058	0.716722	0.655105	0.589754	0.522481
71	0.958943	0.939762	0.914543	0.882569	0.843429	0.797112	0.744072	0.685231	0.621932	0.555840
72	0.965467	0.948731	0.926417	0.897727	0.862112	0.819374	0.769743	0.713908	0.652997	0.588503
73	0.971067	0.956538	0.936896	0.911292	0.879066	0.839858	0.793694	0.741037	0.682796	0.620272
74	0.975852	0.963299	0.946098	0.923367	0.894366	0.858598	0.815907	0.766545	0.711201	0.650973
75	0.979920	0.969127	0.954136	0.934060	0.908098	0.875647	0.836391	0.790388	0.738112	0.680454
76	0.983364	0.974126	0.961125	0.943481	0.920360	0.891074	0.855176	0.812546	0.763457	0.708593
77	0.986267	0.978396	0.967173	0.951741	0.931253	0.904961	0.872308	0.833023	0.787189	0.735290
78	0.988703	0.982026	0.972382	0.958948	0.940883	0.917398	0.887852	0.851843	0.809287	0.760472
79	0.990739	0.985099	0.976848	0.965208	0.949354	0.928479	0.901881	0.869048	0.829749	0.784092
80	0.992434	0.987689	0.980661	0.970620	0.956771	0.938306	0.914479	0.884696	0.848596	0.806124
81	0.993839	0.989864	0.983902	0.975279	0.963236	0.946978	0.925738	0.898856	0.865865	0.826566
82	0.994999	0.991683	0.986646	0.979272	0.968846	0.954597	0.935752	0.911606	0.881607	0.845431
83	0.995954	0.993197	0.988960	0.982679	0.973692	0.961259	0.944616	0.923031	0.895887	0.862754
84	0.996737	0.994454	0.990902	0.985576	0.977861	0.967060	0.952427	0.933221	0.908777	0.878581
85	0.997376	0.995492	0.992528	0.988027	0.981432	0.972089	0.959280	0.942268	0.920358	0.892971
86	0.997896	0.996348	0.993882	0.990095	0.984479	0.976431	0.965266	0.950264	0.930715	0.905993
87	0.998319	0.997050	0.995006	0.991831	0.987069	0.980163	0.970473	0.957300	0.939936	0.917720
88	0.998660	0.997624	0.995937	0.993285	0.989261	0.983359	0.974983	0.963466	0.948109	0.928236
89	0.998935	0.998092	0.996704	0.994496	0.991110	0.986086	0.978874	0.968845	0.955322	0.937622
90	0.999156	0.998473	0.997334	0.995503	0.992663	0.988402	0.982218	0.973520	0.961661	0.945964
91	0.999333	0.998780	0.997849	0.996337	0.993963	0.990363	0.985080	0.977567	0.967209	0.953347
92	0.999474	0.999029	0.998270	0.997024	0.995048	0.992017	0.987520	0.981056	0.972045	0.959853
93	0.999587	0.999229	0.998613	0.997590	0.995950	0.993407	0.989594	0.984052	0.976244	0.965565
94	0.999676	0.999389	0.998891	0.998054	0.996697	0.994572	0.991349	0.986616	0.979876	0.970558
95	0.999746	0.999518	0.999115	0.998432	0.997314	0.995543	0.992830	0.988802	0.983005	0.974906
96	0.999802	0.999620	0.999296	0.998741	0.997822	0.996351	0.994075	0.990659	0.985692	0.978679
97	0.999846	0.999701	0.999441	0.998991	0.998238	0.997021	0.995117	0.992231	0.987990	0.981940
98	0.999880	0.999766	0.999558	0.999194	0.998579	0.997575	0.995988	0.993558	0.989949	0.984748
99	0.999907	0.999817	0.999651	0.999358	0.998857	0.998031	0.996713	0.994673	0.991613	0.987158
100	0.999928	0.999857	0.999725	0.999489	0.999083	0.998406	0.997314	0.995607	0.993021	0.989219
102	0.999958	0.999914	0.999831	0.999680	0.999414	0.998963	0.998221	0.997038	0.995209	0.992466
104	0.999975	0.999948	0.999897	0.999801	0.999630	0.999332	0.998834	0.998024	0.996747	0.994794
106	0.999985	0.999969	0.999938	0.999878	0.999768	0.999574	0.999243	0.998695	0.997814	0.996441
108	0.999992	0.999982	0.999963	0.999925	0.999856	0.999731	0.999514	0.999147	0.998547	0.997593
110	0.999995	0.999989	0.999978	0.999955	0.999911	0.999832	0.999691	0.999448	0.999043	0.998389
112	0.999997	0.999994	0.999987	0.999973	0.999946	0.999896	0.999805	0.999646	0.999376	0.998932
114	0.999998	0.999996	0.999992	0.999984	0.999967	0.999936	0.999878	0.999775	0.999597	0.999299
116	0.999999	0.999998	0.999996	0.999991	0.999980	0.999961	0.999924	0.999858	0.999742	0.999544
118	1.000000	0.999999	0.999997	0.999994	0.999988	0.999976	0.999954	0.999912	0.999836	0.999706
120	1.000000	0.999999	0.999999	0.999997	0.999993	0.999986	0.999972	0.999945	0.999897	0.999812
122	1.000000	1.000000	0.999999	0.999998	0.999996	0.999992	0.999983	0.999966	0.999936	0.999881
124	1.000000	1.000000	1.000000	0.999999	0.999998	0.999995	0.999990	0.999979	0.999960	0.999925
126	1.000000	1.000000	1.000000	0.999999	0.999999	0.999997	0.999994	0.999988	0.999976	0.999953
128	1.000000	1.000000	1.000000	1.000000	0.999999	0.999998	0.999996	0.999993	0.999985	0.999971
130	1.000000	1.000000	1.000000	1.000000	1.000000	0.999999	0.999998	0.999996	0.999991	0.999982

本表对于自由度 ν 和 χ^2 给出 χ^2 分布函数 $P(\chi^2; \nu)$ 的数值。

例：对于 $\nu=56$ 和 $\chi^2=95$ ， $P(\chi^2; \nu)=0.999115$ 。

2 χ^2 分布分位数表

$$\chi_p^2(\nu) : \int_0^{\chi_p^2(\nu)} \frac{1}{2\Gamma(\nu/2)} (\chi^2/2)^{\nu/2-1} e^{-\chi^2/2} d\chi^2 = p$$



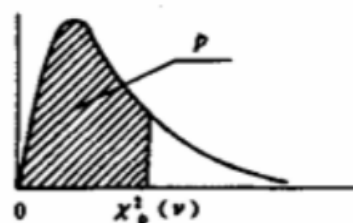
$\nu \backslash p$	0.0005	0.0010	0.0025	0.0050	0.0100	0.0200	0.0250	0.0500	0.1000	0.1500
1	0.00000	0.00000	0.00001	0.00004	0.00016	0.00063	0.00098	0.00393	0.01577	0.03577
2	0.00100	0.00200	0.00501	0.01003	0.02010	0.04041	0.05064	0.10259	0.21072	0.32504
3	0.01528	0.02430	0.04494	0.07172	0.11483	0.18483	0.21580	0.35185	0.58437	0.79777
4	0.06392	0.09080	0.14487	0.20699	0.29711	0.42940	0.48442	0.71072	1.06362	1.36648
5	0.15814	0.21021	0.30748	0.41174	0.55430	0.75189	0.83121	1.14548	1.61031	1.99382
6	0.29941	0.38107	0.52657	0.67573	0.87209	1.13442	1.23734	1.63538	2.20413	2.66127
7	0.48487	0.59849	0.79447	0.98928	1.23904	1.56429	1.68987	2.16735	2.83311	3.35828
8	0.71038	0.85710	1.10426	1.34441	1.64650	2.03248	2.17973	2.73264	3.48954	4.07820
9	0.97170	1.15195	1.45014	1.73493	2.08790	2.53238	2.70039	3.32511	4.16816	4.81652
10	1.26498	1.47874	1.82740	2.15586	2.55821	3.05905	3.24697	3.94030	4.86518	5.57006
11	1.58685	1.83385	2.23214	2.60322	3.05348	3.60869	3.81575	4.57481	5.57778	6.33643
12	1.93438	2.21421	2.66118	3.07382	3.57057	4.17829	4.40379	5.22603	6.30380	7.11384
13	2.30506	2.61722	3.11188	3.56503	4.10692	4.76545	5.00875	5.89186	7.04150	7.90084
14	2.69673	3.04067	3.58202	4.07467	4.66043	5.36820	5.62873	6.57063	7.78953	8.69630
15	3.10752	3.48268	4.06973	4.60092	5.22935	5.98492	6.26214	7.26094	8.54676	9.49928
16	3.53581	3.94163	4.57341	5.14221	5.81221	6.61424	6.90766	7.96165	9.31224	10.30902
17	3.98018	4.41609	5.09167	5.69722	6.40776	7.25500	7.56419	8.67176	10.08519	11.12486
18	4.43939	4.90485	5.62334	6.26480	7.01491	7.90622	8.23075	9.39046	10.86494	11.94625
19	4.91234	5.40682	6.16736	6.84397	7.63273	8.56704	8.90652	10.11701	11.65091	12.77272
20	5.39807	5.92104	6.72282	7.43384	8.26040	9.23670	9.59078	10.85081	12.44261	13.60386
21	5.89570	6.44668	7.28892	8.03365	8.89720	9.91456	10.28290	11.59131	13.23960	14.43931
22	6.40447	6.98297	7.86493	8.64272	9.54249	10.60003	10.98232	12.33801	14.04149	15.27875
23	6.92368	7.52924	8.45021	9.26042	10.19572	11.29260	11.68855	13.09051	14.84796	16.12192
24	7.45269	8.08488	9.04418	9.88623	10.85636	11.99182	12.40115	13.84843	15.65868	16.96856
25	7.99096	8.64934	9.64633	10.51965	11.52398	12.69727	13.11972	14.61141	16.47341	17.81845
26	8.53795	9.22213	10.25618	11.16024	12.19815	13.40858	13.84390	15.37916	17.29188	18.67139
27	9.09320	9.80278	10.87331	11.80759	12.87850	14.12542	14.57338	16.15140	18.11390	19.52720
28	9.65627	10.39088	11.49732	12.46134	13.56471	14.84748	15.30786	16.92788	18.93924	20.38573
29	10.22678	10.98605	12.12787	13.12115	14.25645	15.57448	16.04707	17.70837	19.76774	21.24682
30	10.80436	11.58795	12.76462	13.78672	14.95346	16.30617	16.79077	18.49266	20.59923	22.11034
31	11.38868	12.19625	13.40727	14.45777	15.65546	17.04232	17.53874	19.28057	21.43356	22.97617
32	11.97943	12.81065	14.05555	15.13403	16.36222	17.78271	18.29076	20.07191	22.27059	23.84419
33	12.57631	13.43089	14.70920	15.81527	17.07351	18.52714	19.04666	20.86653	23.11020	24.71430
34	13.17907	14.05670	15.36798	16.50127	17.78915	19.27544	19.80625	21.66428	23.95225	25.58641
35	13.78745	14.68785	16.03167	17.19182	18.50893	20.02743	20.56938	22.46502	24.79665	26.46042
36	14.40124	15.32411	16.70007	17.88673	19.23268	20.78294	21.33588	23.26861	25.64330	27.33625
37	15.02020	15.96529	17.37299	18.58581	19.96023	21.54185	22.10563	24.07494	26.49209	28.21382
38	15.64414	16.61119	18.05024	19.28891	20.69144	22.30401	22.87848	24.88390	27.34295	29.09307
39	16.27287	17.26162	18.73166	19.99587	21.42616	23.06929	23.65432	25.69539	28.19579	29.97393
40	16.90622	17.91643	19.41710	20.70654	22.16426	23.83757	24.43304	26.50930	29.05052	30.85632
41	17.54401	18.57544	20.10640	21.42078	22.90561	24.60875	25.21452	27.32555	29.90709	31.74021
42	18.18609	19.23852	20.79942	22.13846	23.65009	25.38271	25.99866	28.14405	30.76542	32.62552
43	18.83231	19.90551	21.49605	22.85947	24.39760	26.15935	26.78537	28.96472	31.62545	33.51222
44	19.48253	20.57629	22.19614	23.58369	25.14803	26.93859	27.57457	29.78748	32.48713	34.40024
45	20.13662	21.25074	22.89959	24.31101	25.90127	27.72034	28.36615	30.61226	33.35038	35.28955
46	20.79446	21.92872	23.60629	25.04133	26.65724	28.50450	29.16005	31.43900	34.21517	36.18010
47	21.45592	22.61013	24.31613	25.77456	27.41585	29.29101	29.95620	32.26762	35.08143	37.07185
48	22.12090	23.29487	25.02902	26.51059	28.17701	30.07979	30.75451	33.09808	35.94913	37.96476
49	22.78928	23.98282	25.74485	27.24935	28.94065	30.87076	31.55492	33.93031	36.81822	38.85880
50	23.46097	24.67391	26.46355	27.99075	29.70668	31.66386	32.35736	34.76425	37.68865	39.75393

本表对于自由度 ν 和下侧概率 p 给出 χ^2 分布的分位数 $\chi_p^2(\nu)$ 。

例：对于 $\nu = 27$ 和 $p = 0.05$ ， $\chi_p^2(\nu) = 16.15140$ 。

2 χ^2 分布分位数表

$$\chi_p^2(\nu) : \int_0^{\chi_p^2(\nu)} \frac{1}{2\Gamma(\nu/2)} (x^2/2)^{\nu/2-1} e^{-x^2/2} dx^2 = p$$



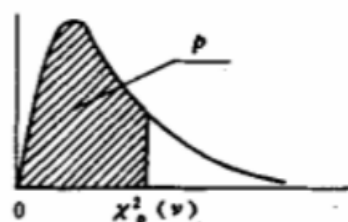
$\nu \backslash p$	0.0005	0.0010	0.0025	0.0050	0.0100	0.0200	0.0250	0.0500	0.1000	0.1500
52	24.81388	26.06508	27.90920	29.48116	31.24567	33.25621	33.96813	36.43709	39.43338	41.54733
54	26.17892	27.46770	29.36533	30.98125	32.79345	34.85635	35.58634	38.11622	41.18304	43.34471
56	27.55542	28.88116	30.83137	32.49049	34.34952	36.46385	37.21159	39.80128	42.93734	45.14586
58	28.94278	30.30488	32.30680	34.00838	35.91346	38.07833	38.84351	41.49195	44.69603	46.95057
60	30.34048	31.73834	33.79114	35.53449	37.48485	39.69942	40.48175	43.18796	46.45889	48.75866
62	31.74799	33.18107	35.28396	37.06842	39.06333	41.32680	42.12599	44.88902	48.22571	50.56996
64	33.16485	34.63264	36.78484	38.60978	40.64856	42.96016	43.77595	46.59491	49.99629	52.38431
66	34.59064	36.09262	38.29342	40.15824	42.24023	44.59922	45.43136	48.30538	51.77046	54.20156
68	36.02496	37.56065	39.80936	41.71347	43.83803	46.24373	47.09198	50.02023	53.54806	56.02160
70	37.46744	39.03638	41.33232	43.27518	45.44172	47.89344	48.75756	51.73928	55.32894	57.84428
72	38.91774	40.51948	42.86202	44.84310	47.05103	49.54814	50.42791	53.46233	57.11295	59.66951
74	40.37554	42.00965	44.39818	46.41696	48.66573	51.20762	52.10283	55.18923	58.89996	61.49717
76	41.84054	43.50662	45.94054	47.99653	50.28560	52.87168	53.78212	56.91982	60.68986	63.32716
78	43.31246	45.01011	47.48885	49.58159	51.91045	54.54014	55.46562	58.65394	62.48252	65.15940
80	44.79105	46.51988	49.04290	51.17193	53.54008	56.21284	57.15317	60.39148	64.27784	66.99379
82	46.27605	48.03569	50.60246	52.76735	55.17431	57.88962	58.84462	62.13229	66.07573	68.83026
84	47.76723	49.55733	52.16734	54.36767	56.81298	59.57033	60.53981	63.87626	67.87608	70.66872
86	49.26438	51.08460	53.73735	55.97270	58.45593	61.25482	62.23863	65.62328	69.67882	72.50912
88	50.76730	52.61730	55.31232	57.58230	60.10301	62.94297	63.94093	67.37323	71.48384	74.35137
90	52.27578	54.15524	56.89207	59.19630	61.75408	64.63466	65.64662	69.12603	73.29109	76.19542
92	53.78965	55.69826	58.47645	60.81457	63.40901	66.32976	67.35556	70.88157	75.10048	78.04120
94	55.30873	57.24619	60.06531	62.43695	65.06767	68.02817	69.06766	72.63977	76.91195	79.88866
96	56.83286	58.79888	61.65851	64.06333	66.72994	69.72977	70.78282	74.40054	78.72542	81.73775
98	58.36189	60.35617	63.25591	65.69357	68.39572	71.43447	72.50094	76.16379	80.54083	83.58842
100	59.89566	61.91794	64.85738	67.32756	70.06489	73.14218	74.22193	77.92947	82.35814	85.44061
105	63.74994	65.84105	68.87811	71.42823	74.25203	77.42402	78.53640	82.35374	86.90927	90.07746
110	67.63102	69.78939	72.92183	75.55004	78.45831	81.72281	82.86705	86.79163	91.47104	94.72292
115	71.53708	73.76126	76.98700	79.69158	82.68244	86.03739	87.21279	91.24220	96.04270	99.37640
120	75.46653	77.75514	81.07222	83.85157	86.92328	90.36674	91.57264	95.70464	100.62363	104.03738
125	79.41794	81.76969	85.17627	88.02887	91.17978	94.70996	95.94573	100.17820	105.21324	108.70539
130	83.39000	85.80368	89.29803	92.22246	95.45102	99.06620	100.33126	104.66223	109.81102	113.38000
135	87.38154	89.85600	93.43649	96.43139	99.73615	103.43474	104.72852	109.15612	114.41650	118.06085
140	91.39150	93.92565	97.59073	100.65484	104.03441	107.81489	109.13687	113.65934	119.02925	122.74759
145	95.41890	98.01171	101.75992	104.89203	108.34510	112.20603	113.55571	118.17137	123.64889	127.43989
150	99.46285	102.11335	105.94328	109.14225	112.66758	116.60759	117.98452	122.69178	128.27505	132.13749
155	103.52254	106.22979	110.14012	113.40486	117.00127	121.01907	122.42278	127.22013	132.90742	136.84010
160	107.59721	110.36033	114.34980	117.67926	121.34563	125.43998	126.87005	131.75606	137.54569	141.54749
165	111.68618	114.50431	118.57171	121.96491	125.70016	129.86988	131.32591	136.29920	142.18960	146.25944
170	115.78879	118.66112	122.80531	126.26130	130.06440	134.30837	135.78996	140.84923	146.83887	150.97574
175	119.90445	122.83022	127.05008	130.56796	134.43794	138.75507	140.26186	145.40585	151.49329	155.69620
180	124.03261	127.01107	131.30555	134.88445	138.82036	143.20963	144.74126	149.96877	156.15263	160.42064
185	128.17276	131.20319	135.57128	139.21036	143.21131	147.67172	149.22785	154.53774	160.81668	165.14889
190	132.32441	135.40613	139.84685	143.54533	147.61043	152.14105	153.72135	159.11251	165.48525	169.88080
195	136.48711	139.61946	144.13188	147.88898	152.01742	156.61732	158.22148	163.69285	170.15817	174.61623
200	140.66045	143.84279	148.42601	152.24099	156.43197	161.10028	162.72798	168.27855	174.83527	179.35505
210	149.03747	152.31799	157.04023	160.96887	165.28262	170.08525	171.75919	177.46524	184.20140	188.84232
220	157.45257	160.82901	165.68704	169.72668	174.16035	179.09414	180.81324	186.67112	193.58249	198.34170
230	165.90321	169.37343	174.36423	178.51241	183.06332	188.12534	189.88859	195.89488	202.97752	207.85237
240	174.38709	177.94911	183.06986	187.32426	191.98990	197.17740	198.98385	205.13538	212.38561	217.37360
250	182.90216	186.55410	191.80216	196.16060	200.93862	206.24904	208.09780	214.39157	221.80593	226.90473

本表对于自由度 ν 和下侧概率 p 给出 χ^2 分布的分位数 $\chi_p^2(\nu)$ 。

例：对于 $\nu = 125$ 和 $p = 0.05$ ， $\chi_p^2(\nu) = 100.17820$ 。

2 χ^2 分布分位数表

$$\chi_p^2(\nu) : \int_0^{\chi_p^2(\nu)} \frac{1}{2\Gamma(\nu/2)} (\chi^2/2)^{\nu/2-1} e^{-\chi^2/2} d\chi^2 = p$$



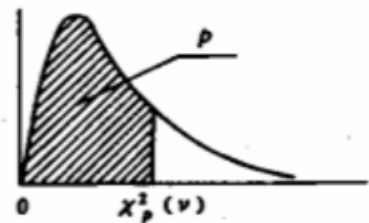
p ν	0.2000	0.2500	0.3000	0.4000	0.5000	0.6000	0.6500	0.7000	0.7500	0.8000
1	0.06418	0.10153	0.14847	0.27500	0.45494	0.70833	0.87346	1.07419	1.32330	1.64237
2	0.44629	0.57536	0.71335	1.02165	1.38629	1.83258	2.09964	2.40795	2.77259	3.21888
3	1.00517	1.21253	1.42365	1.86917	2.36597	2.94617	3.28311	3.66487	4.10834	4.64163
4	1.64878	1.92256	2.19470	2.75284	3.35669	4.04463	4.43769	4.87843	5.38527	5.98862
5	2.34253	2.67460	2.99991	3.65550	4.35146	5.13187	5.57307	6.06443	6.62568	7.28928
6	3.07009	3.45460	3.82755	4.57015	5.34812	6.21076	6.69476	7.23114	7.84080	8.55806
7	3.82232	4.25485	4.67133	5.49323	6.34581	7.28321	7.80612	8.38343	9.03715	9.80325
8	4.59357	5.07064	5.52742	6.42265	7.34412	8.35053	8.90936	9.52446	10.21885	11.03009
9	5.38005	5.89883	6.39331	7.35703	8.34283	9.41364	10.00600	10.65637	11.38875	12.24215
10	6.17908	6.73720	7.26722	8.29547	9.34182	10.47324	11.09714	11.78072	12.54886	13.44196
11	6.98867	7.58414	8.14787	9.23729	10.34100	11.52983	12.18363	12.89867	13.70069	14.63142
12	7.80733	8.43842	9.03428	10.18197	11.34032	12.58384	13.26610	14.01110	14.84540	15.81199
13	8.63386	9.29907	9.92568	11.12914	12.33976	13.63557	14.34506	15.11872	15.98391	16.98480
14	9.46733	10.16531	10.82148	12.07848	13.33927	14.68529	15.42092	16.22210	17.11693	18.15077
15	10.30696	11.03654	11.72117	13.02975	14.33886	15.73322	16.49401	17.32169	18.24509	19.31066
16	11.15212	11.91222	12.62435	13.98274	15.33850	16.77954	17.56463	18.41789	19.36886	20.46508
17	12.00227	12.79193	13.53068	14.93727	16.33818	17.82439	18.63299	19.51102	20.48868	21.61456
18	12.85695	13.67529	14.43986	15.89321	17.33790	18.86790	19.69931	20.60135	21.60489	22.75955
19	13.71579	14.56200	15.35166	16.85043	18.33765	19.91020	20.76376	21.68913	22.71781	23.90042
20	14.57844	15.45177	16.26586	17.80883	19.33743	20.95137	21.82648	22.77455	23.82769	25.03751
21	15.44461	16.34438	17.18227	18.76831	20.33723	21.99150	22.88761	23.85779	24.93478	26.17110
22	16.31404	17.23962	18.10072	19.72879	21.33704	23.03066	23.94726	24.93902	26.03927	27.30145
23	17.18651	18.13730	19.02109	20.69020	22.33688	24.06892	25.00554	26.01837	27.14134	28.42879
24	18.06180	19.03725	19.94323	21.65249	23.33673	25.10635	26.06252	27.09596	28.24115	29.55332
25	18.93975	19.93934	20.86703	22.61558	24.33659	26.14298	27.11831	28.17192	29.33885	30.67520
26	19.82019	20.84343	21.79240	23.57943	25.33646	27.17888	28.17296	29.24633	30.43457	31.79461
27	20.70298	21.74940	22.71924	24.54400	26.33634	28.21408	29.22655	30.31929	31.52841	32.91169
28	21.58797	22.65716	23.64746	25.50925	27.33623	29.24862	30.27914	31.39088	32.62049	34.02657
29	22.47505	23.56659	24.57699	26.47513	28.33613	30.28254	31.33077	32.46117	33.71091	35.13936
30	23.36411	24.47761	25.50776	27.44162	29.33603	31.31586	32.38150	33.53023	34.79974	36.25019
31	24.25506	25.39014	26.43971	28.40868	30.33594	32.34863	33.43138	34.59813	35.88708	37.35914
32	25.14779	26.30411	27.37277	29.37629	31.33586	33.38086	34.48044	35.66492	36.97298	38.46631
33	26.04222	27.21944	28.30691	30.34441	32.33578	34.41259	35.52873	36.73065	38.05753	39.57179
34	26.93827	28.13608	29.24205	31.31303	33.33571	35.44383	36.57627	37.79538	39.14078	40.67565
35	27.83587	29.05396	30.17817	32.28212	34.33564	36.47461	37.62312	38.85914	40.22279	41.77796
36	28.73496	29.97304	31.11522	33.25166	35.33557	37.50494	38.66928	39.92198	41.30362	42.87880
37	29.63547	30.89326	32.05315	34.22163	36.33551	38.53485	39.71480	40.98394	42.38331	43.97822
38	30.53734	31.81457	32.99194	35.19201	37.33545	39.56435	40.75969	42.04505	43.46191	45.07628
39	31.44052	32.73693	33.93155	36.16280	38.33540	40.59346	41.80399	43.10535	44.53946	46.17303
40	32.34495	33.66029	34.87194	37.13396	39.33534	41.62219	42.84771	44.16487	45.61601	47.26854
41	33.25060	34.58464	35.81309	38.10549	40.33529	42.65056	43.89089	45.22363	46.69160	48.36283
42	34.15740	35.50991	36.75496	39.07738	41.33525	43.67859	44.93353	46.28168	47.76625	49.45597
43	35.06534	36.43609	37.69754	40.04960	42.33520	44.70627	45.97566	47.33902	48.84001	50.54799
44	35.97435	37.36313	38.64079	41.02215	43.33516	45.73364	47.01729	48.39569	49.91290	51.63892
45	36.88441	38.29102	39.58470	41.99502	44.33512	46.76069	48.05845	49.45171	50.98495	52.72881
46	37.79548	39.21971	40.52924	42.96820	45.33508	47.78743	49.09915	50.50711	52.05619	53.81770
47	38.70752	40.14919	41.47439	43.94167	46.33504	48.81389	50.13940	51.56189	53.12666	54.90561
48	39.62051	41.07943	42.42013	44.91543	47.33500	49.84006	51.17922	52.61609	54.19636	55.99258
49	40.53442	42.01040	43.36644	45.88947	48.33497	50.86595	52.21862	53.66972	55.26534	57.07863
50	41.44921	42.94208	44.31331	46.86378	49.33494	51.89158	53.25762	54.72279	56.33360	58.16380

本表对于自由度 ν 和下侧概率 p 给出 χ^2 分布的分位数 $\chi_p^2(\nu)$ 。

例：对于 $\nu = 15$ 和 $p = 0.5$ ， $\chi_p^2(\nu) = 14.33886$ 。

2 χ^2 分布分位数表

$$-\chi_p^2(\nu) : \int_0^{\chi_p^2} \frac{1}{2\Gamma(\nu/2)} (\chi^2/2)^{\nu/2-1} e^{-\chi^2/2} d\chi^2 = p$$



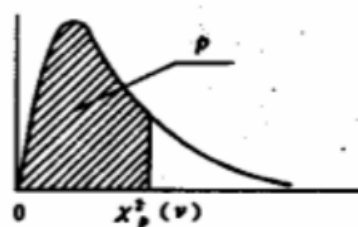
$\nu \backslash p$	0.2000	0.2500	0.3000	0.4000	0.5000	0.6000	0.6500	0.7000	0.7500	0.8000
52	43.28135	44.80750	46.20864	48.81316	51.33487	53.94208	55.33444	56.82736	58.46809	60.33158
54	45.11674	46.67553	48.10599	50.76353	53.33482	55.99160	57.40978	58.92990	60.59998	62.49613
56	46.95518	48.54601	50.00526	52.71482	55.33476	58.04020	59.48372	61.03054	62.72942	64.65762
58	48.79653	50.41881	51.90633	54.66699	57.33471	60.08793	61.55634	63.12938	64.85654	66.81621
60	50.64062	52.29382	53.80913	56.61999	59.33467	62.13484	63.62770	65.22651	66.98146	68.97207
62	52.48732	54.17092	55.71355	58.57379	61.33462	64.18096	65.69787	67.32201	69.10429	71.12532
64	54.33650	56.05001	57.61952	60.52833	63.33458	66.22634	67.76691	69.41597	71.22514	73.27609
66	56.18804	57.93100	59.52696	62.48358	65.33454	68.27101	69.83486	71.50846	73.34409	75.42450
68	58.04185	59.81380	61.43582	64.43952	67.33451	70.31500	71.90179	73.59954	75.46124	77.57065
70	59.89781	61.69833	63.34602	66.39611	69.33447	72.35835	73.96772	75.68928	77.57666	79.71465
72	61.75583	63.58452	65.25752	68.35333	71.33444	74.40107	76.03271	77.77773	79.69042	81.85659
74	63.61584	65.47229	67.17024	70.31114	73.33441	76.44320	78.09680	79.86495	81.80260	83.99655
76	65.47774	67.36159	69.08415	72.26953	75.33438	78.48476	80.16002	81.95099	83.91326	86.13461
78	67.34146	69.25235	70.99920	74.22847	77.33436	80.52577	82.22240	84.03590	86.02246	88.27086
80	69.20694	71.14451	72.91534	76.18793	79.33433	82.56625	84.28398	86.11971	88.13026	90.40535
82	71.07410	73.03802	74.83254	78.14791	81.33431	84.60623	86.34479	88.20247	90.23670	92.53816
84	72.94289	74.93284	76.75074	80.10837	83.33428	86.64572	88.40486	90.28423	92.34185	94.66934
86	74.81324	76.82892	78.66993	82.06931	85.33426	88.68473	90.46421	92.36500	94.44574	96.79896
88	76.68511	78.72621	80.59006	84.03071	87.33424	90.72330	92.52287	94.44484	96.54842	98.92707
90	78.55843	80.62466	82.51110	85.99254	89.33422	92.76142	94.58086	96.52376	98.64993	101.05372
92	80.43317	82.52425	84.43302	87.95481	91.33420	94.79912	96.63821	98.60181	100.75031	103.17896
94	82.30927	84.42494	86.35579	89.91748	93.33418	96.83641	98.69493	100.67901	102.84960	105.30284
96	84.18669	86.32668	88.27938	91.88055	95.33416	98.87330	100.75105	102.75538	104.94783	107.42540
98	86.06539	88.22945	90.20378	93.84401	97.33415	100.90981	102.80658	104.83096	107.04503	109.54668
100	87.94534	90.13322	92.12894	95.80785	99.33413	102.94594	104.86155	106.90576	109.14124	111.66671
105	92.65038	94.89679	96.94510	100.71900	104.33409	108.03472	109.99658	112.08954	114.37761	116.96162
110	97.36241	99.66597	101.76561	105.63226	109.33406	113.12139	115.12842	117.26896	119.60838	122.24955
115	102.08096	104.44038	106.59019	110.54748	114.33402	118.20611	120.25727	122.44433	124.83393	127.53096
120	106.80561	109.21966	111.41857	115.46454	119.33400	123.28899	125.38334	127.61590	130.05459	132.80628
125	111.53596	114.00353	116.25052	120.38333	124.33397	128.37015	130.50679	132.78391	135.27068	138.07590
130	116.27169	118.79171	121.08581	125.30374	129.33394	133.44970	135.62778	137.94858	140.48247	143.34014
135	121.01248	123.58395	125.92426	130.22567	134.33392	138.52772	140.74646	143.11009	145.69020	148.59932
140	125.75805	128.38002	130.76569	135.14904	139.33390	143.60430	145.86294	148.26862	150.89410	153.85373
145	130.50815	133.17972	135.60994	140.07378	144.33388	148.67953	150.97736	153.42433	156.09437	159.10360
150	135.26254	137.98286	140.45688	144.99982	149.33386	153.75346	156.08981	158.57737	161.29120	164.34919
155	140.02102	142.78927	145.30635	149.92708	154.33385	158.82616	161.20039	163.72786	166.48476	169.59069
160	144.78337	147.59880	150.15825	154.85552	159.33383	163.89769	166.30919	168.87594	171.67521	174.82832
165	149.54943	152.41129	155.01246	159.78507	164.33381	168.96811	171.41630	174.02171	176.86269	180.06224
170	154.31902	157.22662	159.86886	164.71568	169.33380	174.03747	176.52179	179.16527	182.04734	185.29264
175	159.09199	162.04465	164.72738	169.64732	174.33379	179.10581	181.62573	184.30673	187.22929	190.51965
180	163.86819	166.86528	169.58791	174.57992	179.33377	184.17318	186.72820	189.44618	192.40864	195.74343
185	168.64750	171.68839	174.45037	179.51347	184.33376	189.23961	191.82924	194.58370	197.58551	200.96411
190	173.42977	176.51389	179.31469	184.44791	189.33375	194.30515	196.92893	199.71936	202.75999	206.18182
195	178.21491	181.34168	184.18079	189.38321	194.33374	199.36983	202.02730	204.85324	207.93219	211.39668
200	183.00279	186.17167	189.04860	194.31933	199.33373	204.43368	207.12442	209.98542	213.10219	216.60878
210	192.58639	195.83793	198.78911	204.19395	209.33371	214.55903	217.31507	220.24487	223.43589	227.02516
220	202.17983	205.51208	208.53575	214.07153	219.33369	224.68141	227.50121	230.49820	233.76172	237.43170
230	211.78243	215.19357	218.28810	223.95188	229.33368	234.80104	237.68316	240.74582	244.08020	247.82908
240	221.39361	224.88194	228.04580	233.83480	239.33366	244.91809	247.86118	250.98810	254.39181	258.21788
250	231.01284	234.57676	237.80852	243.72015	249.33365	255.03271	258.03551	261.22536	264.69697	268.59864

本表对于自由度 ν 和下侧概率 p 给出 χ^2 分布的分位数 $\chi_p^2(\nu)$ 。

例：对于 $\nu=60$ 和 $p=0.5$ ， $\chi_p^2(\nu)=59.33467$ 。

2 χ^2 分布分位数表

$$\chi^2_p(\nu) : \int_0^{\chi^2} \frac{1}{2\Gamma(\nu/2)} (\chi^2/2)^{\nu/2-1} e^{-\chi^2/2} d\chi^2 = p$$



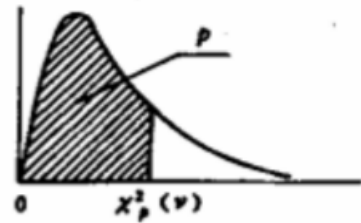
ν	0.8500	0.9000	0.9500	0.9750	0.9800	0.9900	0.9950	0.9975	0.9990	0.9995
1	2.07225	2.70554	3.84146	5.02389	5.41189	6.63490	7.87944	9.14059	10.82757	12.11567
2	3.79424	4.60517	5.99146	7.37776	7.82405	9.21034	10.59663	11.98293	13.81551	15.20180
3	5.31705	6.25139	7.81473	9.34840	9.83741	11.34487	12.83816	14.32035	16.26624	17.73000
4	6.74488	7.77944	9.48773	11.14329	11.66784	13.27670	14.86026	16.42394	18.46683	19.99735
5	8.11520	9.23636	11.07050	12.83250	13.38822	15.08627	16.74960	18.38561	20.51501	22.10533
6	9.44610	10.64464	12.59159	14.44938	15.03321	16.81189	18.54758	20.24940	22.45774	24.10280
7	10.74790	12.01704	14.06714	16.01276	16.62242	18.47531	20.27774	22.04039	24.32189	26.01777
8	12.02707	13.36157	15.50731	17.53455	18.16823	20.09024	21.95495	23.77447	26.12448	27.86805
9	13.28804	14.68366	16.91898	19.02277	19.67902	21.66599	23.58935	25.46248	27.87716	29.66581
10	14.53394	15.98718	18.30704	20.48318	21.16077	23.20925	25.18818	27.11217	29.58830	31.41981
11	15.76710	17.27501	19.67514	21.92005	22.61794	24.72497	26.75685	28.72935	31.26413	33.13662
12	16.98931	18.54935	21.02607	23.33666	24.05396	26.21697	28.29952	30.31848	32.90949	34.82127
13	18.20198	19.81193	22.36203	24.73560	25.47151	27.68825	29.81947	31.88309	34.52818	36.47779
14	19.40624	21.06414	23.68479	26.11895	26.87276	29.14124	31.31935	33.42601	36.12327	38.10940
15	20.60301	22.30713	24.99579	27.48839	28.25950	30.57791	32.80132	34.94959	37.69730	39.71876
16	21.79306	23.54183	26.29623	28.84535	29.63318	31.99993	34.26719	36.45575	39.25235	41.30807
17	22.97703	24.76904	27.58711	30.19101	30.99505	33.40866	35.71847	37.94614	40.79022	42.87921
18	24.15547	25.98942	28.86930	31.52638	32.34616	34.80531	37.15645	39.42215	42.31240	44.43377
19	25.32885	27.20357	30.14353	32.85233	33.68743	36.19087	38.58226	40.88497	43.82020	45.97312
20	26.49758	28.41198	31.41043	34.16961	35.01963	37.56623	39.99685	42.33566	45.31475	47.49845
21	27.66201	29.61509	32.67057	35.47888	36.34345	38.93217	41.40106	43.77512	46.79704	49.01081
22	28.82245	30.81328	33.92444	36.78071	37.65950	40.28936	42.79565	45.20415	48.26794	50.51112
23	29.97919	32.00690	35.17246	38.07563	38.96831	41.63840	44.18128	46.62346	49.72823	52.00019
24	31.13246	33.19624	36.41503	39.36408	40.27036	42.97982	45.55851	48.03369	51.17860	53.47875
25	32.28249	34.38159	37.65248	40.64647	41.56607	44.31410	46.92789	49.43540	52.61966	54.94746
26	33.42947	35.56317	38.88514	41.92317	42.85583	45.64168	48.28988	50.82911	54.05196	56.40689
27	34.57358	36.74122	40.11327	43.19451	44.13999	46.96294	49.64492	52.21527	55.47602	57.85759
28	35.71499	37.91592	41.33714	44.46079	45.41885	48.27824	50.99338	53.59431	56.89229	59.30003
29	36.85383	39.08747	42.55697	45.72229	46.69270	49.58788	52.33562	54.96660	58.30117	60.73465
30	37.99025	40.25602	43.77297	46.97924	47.96180	50.89218	53.67196	56.33250	59.70306	62.16185
31	39.12437	41.42174	44.98534	48.23189	49.22640	52.19139	55.00270	57.69232	61.09831	63.58201
32	40.25630	42.58475	46.19426	49.48044	50.48670	53.48577	56.32811	59.04635	62.48722	64.99546
33	41.38614	43.74518	47.39988	50.72508	51.74292	54.77554	57.64845	60.39488	63.87010	66.40251
34	42.51399	44.90316	48.60237	51.96600	52.99524	56.06091	58.96393	61.73814	65.24722	67.80346
35	43.63994	46.05879	49.80185	53.20335	54.24383	57.34207	60.27477	63.07637	66.61883	69.19856
36	44.76407	47.21217	50.99846	54.43729	55.48886	58.61921	61.58118	64.40979	67.98517	70.58807
37	45.88645	48.36341	52.19232	55.66797	56.73047	59.89250	62.88334	65.73859	69.34645	71.97222
38	47.00717	49.51258	53.38354	56.89552	57.96880	61.16209	64.18141	67.06296	70.70289	73.35123
39	48.12628	50.65977	54.57223	58.12006	59.20398	62.42812	65.47557	68.38308	72.05466	74.72529
40	49.24385	51.80506	55.75848	59.34171	60.43613	63.69074	66.76596	69.69911	73.40196	76.09460
41	50.35994	52.94851	56.94239	60.56057	61.66538	64.95007	68.05273	71.01120	74.74494	77.45934
42	51.47459	54.09020	58.12404	61.77676	62.89181	66.20624	69.33600	72.31950	76.08376	78.81966
43	52.58787	55.23019	59.30351	62.99036	64.11554	67.45935	70.61590	73.62414	77.41858	80.17573
44	53.69982	56.36854	60.48089	64.20146	65.33667	68.70951	71.89255	74.92525	78.74952	81.52769
45	54.81049	57.50530	61.65623	65.41016	66.55527	69.95683	73.16606	76.22295	80.07673	82.87569
46	55.91991	58.64054	62.82962	66.61653	67.77143	71.20140	74.43654	77.51735	81.40033	84.21985
47	57.02814	59.77429	64.00111	67.82065	68.98524	72.44331	75.70407	78.80856	82.72042	85.56030
48	58.13520	60.90661	65.17077	69.02259	70.19676	73.68264	76.96877	80.09668	84.03713	86.89715
49	59.24114	62.03754	66.33865	70.22241	71.40608	74.91947	78.23071	81.38182	85.35056	88.23052
50	60.34599	63.16712	67.50481	71.42020	72.61325	76.15389	79.48998	82.66405	86.66082	89.56052

本表对于自由度 ν 和下侧概率 p 给出 χ^2 分布的分位数 $\chi^2_p(\nu)$ 。

例：对于 $\nu=1$ 和 $p=0.95$ ， $\chi^2_p(\nu)=3.84146$ 。

2 χ^2 分布分位数表

$$\chi_p^2(\nu) = \int_0^{\chi_p^2(\nu)} \frac{1}{2\Gamma(\nu/2)} (\chi^2/2)^{\nu/2-1} e^{-\chi^2/2} d\chi^2 = p$$



$\nu \backslash p$	0.8500	0.9000	0.9500	0.9750	0.9800	0.9900	0.9950	0.9975	0.9990	0.9995
52	62.55256	65.42241	69.83216	73.80986	75.02143	78.61576	82.00083	85.22015	89.27215	92.21078
54	64.75514	67.67279	72.15322	76.19205	77.42177	81.06877	84.50190	87.76563	91.87185	94.84869
56	66.95396	69.91851	74.46832	78.56716	79.81471	83.51343	86.99376	90.30109	94.46054	97.47491
58	69.14921	72.15984	76.77780	80.93559	82.20065	85.95018	89.47687	92.82706	97.03883	100.09008
60	71.34110	74.39701	79.08194	83.29767	84.57995	88.37942	91.95170	95.34402	99.60723	102.69476
62	73.52977	76.63021	81.38102	85.65373	86.95294	90.80153	94.41865	97.85242	102.16625	105.28946
64	75.71540	78.85964	83.67526	88.00405	89.31992	93.21686	96.87811	100.35268	104.71633	107.87467
66	77.89812	81.08549	85.96491	90.34890	91.68117	95.62572	99.33043	102.84516	107.25788	110.45083
68	80.07806	83.30790	88.25016	92.68854	94.03697	98.02840	101.77592	105.33024	109.79130	113.01834
70	82.25535	85.52704	90.53123	95.02318	96.38754	100.42518	104.21490	107.80822	112.31693	115.57758
72	84.43011	87.74305	92.80827	97.35305	98.73310	102.81631	106.64763	110.27942	114.83512	118.12891
74	86.60243	89.95605	95.08147	99.67835	101.07388	105.20203	109.07438	112.74411	117.34616	120.67266
76	88.77242	92.16617	97.35097	101.99925	103.41006	107.58254	111.49538	115.20255	119.85035	123.20912
78	90.94016	94.37352	99.61693	104.31594	105.74182	109.95807	113.91087	117.65500	122.34795	125.73858
80	93.10575	96.57820	101.87947	106.62857	108.06934	112.32879	116.32106	120.10168	124.83922	128.26131
82	95.26927	98.78033	104.13874	108.93729	110.39277	114.69489	118.72613	122.54280	127.32440	130.77756
84	97.43079	100.97999	106.39484	111.24226	112.71225	117.05654	121.12629	124.97857	129.80369	133.28757
86	99.59039	103.17726	108.64789	113.54360	115.02795	119.41390	123.52170	127.40919	132.27732	135.79156
88	101.74812	105.37225	110.89800	115.84144	117.33997	121.76711	125.91254	129.83482	134.74548	138.28973
90	103.90406	107.56501	113.14527	118.13589	119.64846	124.11632	128.29894	132.25563	137.20835	140.78228
92	106.05827	109.75563	115.38979	120.42708	121.95352	126.46166	130.68107	134.67180	139.66612	143.26940
94	108.21079	111.94417	117.63165	122.71511	124.25527	128.80325	133.05906	137.08346	142.11894	145.75127
96	110.36169	114.13071	119.87094	125.00007	126.55381	131.14122	135.43305	139.49076	144.56697	148.22804
98	112.51102	116.31530	122.10773	127.28207	128.84925	133.47567	137.80315	141.89384	147.01036	150.69989
100	114.65882	118.49800	124.34211	129.56120	131.14168	135.80672	140.16949	144.29283	149.44925	153.16696
105	120.02194	123.94688	129.91796	135.24699	136.86015	141.62011	146.06960	150.27316	155.52768	159.31462
110	125.37645	129.38514	135.48018	140.91657	142.56166	147.41431	151.94848	156.23042	161.58074	165.43532
115	130.72295	134.81348	141.02970	146.57105	148.24735	153.19060	157.80759	162.16614	167.61015	171.53087
120	136.06196	140.23257	146.56736	152.21140	153.91823	158.95017	163.64818	168.08173	173.61744	177.60290
125	141.39394	145.64297	152.09388	157.83850	159.57524	164.69403	169.47142	173.97843	179.60397	183.65286
130	146.71930	151.04520	157.60992	163.45314	165.21920	170.42313	175.27834	179.85736	185.57097	189.68206
135	152.03844	156.43973	163.11610	169.05604	170.85085	176.13831	181.06986	185.71954	191.51957	195.69168
140	157.35169	161.82699	168.61295	174.64783	176.47088	181.84034	186.84684	191.56589	197.45077	201.68281
145	162.65937	167.20737	174.10098	180.22912	182.07991	187.52992	192.61005	197.39726	203.36550	207.65641
150	167.96177	172.58121	179.58063	185.80045	187.67850	193.20769	198.36021	203.21441	209.26460	213.61340
155	173.25915	177.94885	185.05233	191.36230	193.26716	198.87423	204.09794	209.01805	215.14886	219.55459
160	178.55174	183.31058	190.51646	196.91514	198.84639	204.53009	209.82387	214.80882	221.01897	225.48074
165	183.83978	188.66669	195.97336	202.45939	204.41661	210.17577	215.53852	220.58734	226.87560	231.39255
170	189.12348	194.01742	201.42337	207.99543	209.97824	215.81172	221.24242	226.35414	232.71936	237.29067
175	194.40301	199.36300	206.86680	213.52363	215.53165	221.43837	226.93603	232.10975	238.55081	243.17569
180	199.67857	204.70367	212.30391	219.04432	221.07720	227.05612	232.61980	237.85463	244.37047	249.04818
185	204.95031	210.03963	217.73498	224.55781	226.61520	232.66534	238.29413	243.58924	250.17883	254.90864
190	210.21838	215.37106	223.16025	230.06439	232.14597	238.26637	243.95940	249.31398	255.97635	260.75757
195	215.48295	220.69814	228.57994	235.56433	237.66979	243.85953	249.61596	255.02925	261.76345	266.59542
200	220.74413	226.02105	233.99427	241.05790	243.18692	249.44512	255.26416	260.73541	267.54053	272.42261
210	231.25684	236.65493	244.80764	252.02681	254.20211	260.59472	266.53666	272.12172	279.06609	284.04656
220	241.75745	247.27385	255.60182	262.97288	265.19336	271.71723	277.77920	283.47540	290.55578	295.63234
230	252.24677	257.87882	266.37810	273.89765	276.16229	282.81448	288.99379	294.79865	302.01199	307.18251
240	262.72553	268.47074	277.13765	284.80248	287.11035	293.88810	300.18224	306.09343	313.43690	318.69937
250	273.19439	279.05043	287.88150	295.68863	298.03882	304.93956	311.34616	317.36150	324.83244	330.18498

本表对于自由度 ν 和下侧概率 p 给出 χ^2 分布的分位数 $\chi_p^2(\nu)$ 。

例：对于 $\nu = 210$ 和 $p = 0.95$ ， $\chi_p^2(\nu) = 244.80764$ 。

附录 A

计算方法

(参考件)

这里给出本标准两种数值表的计算方法。在本标准所列数表不能满足要求时,可参考这些算法及附录B的程序进行计算,或者使用插值方法作粗略计算。

A.1 定义与记号

自由度为 ν 的 χ^2 分布的密度函数是

$$f(\chi^2, \nu) = \begin{cases} \frac{1}{2\Gamma(\frac{\nu}{2})} \left(\frac{\chi^2}{2}\right)^{\frac{\nu}{2}-1} e^{-\frac{\chi^2}{2}}, & 0 < \chi^2 < \infty, \\ 0, & \chi^2 < 0, \end{cases}$$

$\nu = 1, 2, 3, \dots$

式中: $\Gamma(a) = \int_0^\infty x^{a-1} e^{-x} dx$ 。

分布函数是

$$P(\chi^2, \nu) = \int_0^{\chi^2} f(\chi^2, \nu) d\chi^2.$$

与下侧概率 p 对应的分位数 $\chi_p^2(\nu)$ 满足如下方程:

$$P(\chi_p^2(\nu), \nu) = p.$$

A.2 计算方法

A.2.1 正态分布的引用

本附录涉及正态分布的分布函数 Φ 与分位数 u_p 的计算,可参考GB 4086.1—83《统计分布数值表 正态分布》的附录A。

A.2.2 χ^2 分布密度函数与分布函数的计算

使用由分部积分法得到的递推公式计算:

$$\begin{cases} P(\chi^2, \nu) = P(\chi^2, \nu-2) - 2f(\chi^2, \nu), \\ f(\chi^2, \nu) = \frac{\chi^2}{\nu-2} f(\chi^2, \nu-2), \end{cases} \quad \nu = 3, 4, 5, \dots$$

递推初值为

$$\begin{cases} P(\chi^2, 1) = 2\Phi(\chi) - 1, \\ P(\chi^2, 2) = 1 - e^{-\frac{\chi^2}{2}}, \\ f(\chi^2, 1) = \frac{1}{\sqrt{2\pi}\chi} e^{-\frac{\chi^2}{2}}, \\ f(\chi^2, 2) = \frac{1}{2} e^{-\frac{\chi^2}{2}}. \end{cases}$$

A.2.3 χ^2 分布的分位数

若 $\nu = 1, 2$, 则

$$\chi_p^2(1) = u_{\frac{p+1}{2}}^2$$

$$\chi_p^2(2) = -2 \ln(1-p).$$

若 $\nu = 3, 4, 5, \dots$, 使用迭代法计算 (见 GB 4086.1 附录 A.3), 初始值为

$$\chi_p^2(\nu) = \nu \sum_{i=0}^k c_i(u_p) \left(\frac{2}{\nu}\right)^{\frac{i}{2}},$$

式中:

$$c_0(u) = 1,$$

$$c_1(u) = u,$$

$$c_2(u) = \frac{1}{3}(u^2 - 1),$$

$$c_3(u) = \frac{1}{2^2 \cdot 3^2}(u^3 - 7u),$$

$$c_4(u) = \frac{1}{2 \cdot 3^4 \cdot 5}(-3u^4 - 7u^2 + 16),$$

$$c_5(u) = \frac{1}{2^5 \cdot 3^5 \cdot 5}(9u^5 + 256u^3 - 433u),$$

$$c_6(u) = \frac{1}{2^3 \cdot 3^6 \cdot 5 \cdot 7}(12u^6 - 243u^4 - 923u^2 + 1472),$$

$$c_7(u) = \frac{1}{2^7 \cdot 3^8 \cdot 5^2 \cdot 7}(-3753u^7 - 4353u^5 + 289517u^3 + 289717u),$$

$$c_8(u) = \frac{1}{2^4 \cdot 3^9 \cdot 5^2 \cdot 7}(270u^8 + 4614u^6 - 9513u^4 - 104989u^2 + 35968),$$

$$c_9(u) = \frac{1}{2^{11} \cdot 3^{10} \cdot 5^2 \cdot 7}(-5139u^9 - 547848u^7 - 2742210u^5 + 7016224u^3 + 37501325u),$$

$$c_{10}(u) = \frac{1}{2^7 \cdot 3^{13} \cdot 5^3 \cdot 7 \cdot 11}(-364176u^{10} + 6208146u^8 + 125735778u^6 + 303753831u^4 - 672186949u^2 - 2432820224),$$

$$c_{11}(u) = \frac{1}{2^{13} \cdot 3^{14} \cdot 5^3 \cdot 7^2 \cdot 11}(199112985u^{11} + 1885396761u^9 - 31857434154u^7 - 287542736226u^5 - 556030221167u^3 + 487855454729u)$$

使用上述12项时, 绝对误差通常小于 10^{-2} 。

附录 B

计 算 程 序

(参考件)

B.1 说明

这里给出用于本标准实际计算的两个FORTRAN语言子程序。它们是

CHIFD: 用于计算 χ^2 分布的密度函数和分布函数,

CHIXD: 用于计算 χ^2 分布的分位数。

程序使用的计算方法见附录A。此外,这两个子程序运行时需调用两个正态分布子程序NORFD与NORXD,可参考GB 4086.1的附录B。

虽然本标准印出的数表只取5~6位小数,但程序的计算精度通常可达 10^{-10} 。

B.2 程序

```

C-----CHIF0001
C-----CHIF0002
C-----CHIF0003
C      SUBROUTINE CHIFD(X2,N,P,DENS)CHIF0004
C      INTEGER NCHIF0005
C      DOUBLE PRECISION X2,P,DENSCHIF0006
C-----CHIF0007
C      ** PURPOSE **CHIF0008
C      DISTRIBUTION FUNCTION OF CHI-SQUARE DISTRIBUTIONCHIF0009
C-----CHIF0010
C      ** ARGUMENTS **CHIF0011
C      ON ENTRYCHIF0012
C      X2      CHI-SQUARE POINTCHIF0013
C      N      DEGREES OF FREEDOMCHIF0014
C      ON RETURNCHIF0015
C      P      LOWER PROBABILITYCHIF0016
C      DENS    DENSITYCHIF0017
C-----CHIF0018
C      ** REQUIRED ROUTINES **CHIF0019
C      NORFD  DISTRIBUTION FUNCTION OF NORMAL DISTRIBUTIONCHIF0020
C-----CHIF0021
C      ** ALGORITHM **CHIF0022
C      THE RECURRENCE FORMULACHIF0023
C      P(X2,N) = P(X2,N-2) - 2*S(N),CHIF0024
C      S(N) = X2/(N-2)*S(N-2),      N = 3,4,5,...CHIF0025
C      INITIAL VALUESCHIF0026
C      P(X2,1) = 2*NORMAL(SQRT(X2)) - 1,CHIF0027
C      P(X2,2) = 1 - EXP(-X2/2),CHIF0028
C      S(1) = 1/SQRT(2*PAI*X2)*EXP(-X2/2),CHIF0029
C      S(2) = 1/2*EXP(-X2/2),CHIF0030
C      WHERE NORMAL DENOTES DISTRIBUTION FUNCTION OF NORMALCHIF0031
C      DISTRIBUTION.CHIF0032
C-----CHIF0033
C-----CHIF0034
C-----CHIF0035
C      INTEGER M,NNCHIF0036
C      DOUBLE PRECISION FI,D,PPCHIF0037
C-----CHIF0038
C      IF (X2 .GT. 0.000) GO TO 10CHIF0039
C      P = 0.000CHIF0040

```

DENS = 0.000	CHIF0041
GO TO 60	CHIF0042
10 CONTINUE	CHIF0043
C IF (MOD(N,2) .LE. 0) GO TO 20	CHIF0044
C	CHIF0045
CC N IS ODD	CHIF0046
C	CHIF0047
FI = DSQRT(X2)	CHIF0048
CALL NORFD(FI,P)	CHIF0049
P = 2.000*P - 1.000	CHIF0050
D = -0.500*(DLOG(X2) + X2 + 0.4515827052894549D0)	CHIF0051
M = 1	CHIF0052
GO TO 30	CHIF0053
20 CONTINUE	CHIF0054
C	CHIF0055
CC N IS EVEN	CHIF0056
C	CHIF0057
P = 1.000 - DEXP(-0.500*X2)	CHIF0058
D = -0.500*X2	CHIF0059
M = 2	CHIF0060
30 CONTINUE	CHIF0061
C	CHIF0062
CC RECURRENCE	CHIF0063
C	CHIF0064
NN = N - 2	CHIF0065
IF (NN .LE. 0) GO TO 50	CHIF0066
DO 40 I = M, NN, 2	CHIF0067
FI = I	CHIF0068
D = D + DLOG(X2/FI)	CHIF0069
PP = 0.000	CHIF0070
IF (D .GT. -50.000) PP = DEXP(D)	CHIF0071
P = P - PP	CHIF0072
40 CONTINUE	CHIF0073
P = DABS(P)	CHIF0074
50 CONTINUE	CHIF0075
C	CHIF0076
DENS = DEXP(D)*0.500	CHIF0077
60 CONTINUE	CHIF0078
RETURN	CHIF0079
END	CHIF0080
C	CHIF0081
C=====	CHIX0001
C	CHIX0002
C	CHIX0003
SUBROUTINE CHIXD(P,N,EPS,X2,IER)	CHIX0004
INTEGER N,IER	CHIX0005
DOUBLE PRECISION P,EPS,X2	CHIX0006
C	CHIX0007
C ** PURPOSE **	CHIX0008
C PERCENTAGE POINT OF CHI-SQUARE DISTRIBUTION	CHIX0009
C	CHIX0010
C ** ARGUMENTS **	CHIX0011
C ON NETRY	CHIX0012
C P LOWER PROBABILITY	CHIX0013
C N DEGREES OF FREEDOM	CHIX0014
C EPS REQUIRED PRECISION	CHIX0015
C ON RETURN	CHIX0016
C X2 PERCENTAGE POINT	CHIX0017
C IER ERROR PARAMETER	CHIX0018
C IER.NE.0 INDICATES P.LE.0 OR P.GE.1	CHIX0019
C	CHIX0020
C ** REQUIRED ROUTINES **	CHIX0021

C	NORFD	DISTRIBUTION FUNCTION OF NORMAL DISTRIBUTION	CHIX0022
C	NORXD	PERCENTAGE POINT OF NORMAL DISTRIBUTION	CHIX0023
C	CHTQ	DISTRIBUTION FUNCTION OF CHI-SQUARE DISTRIBUTION	CHIX0024
C			CHIX0025
C	** ALGORITHM **		CHIX0026
C	FOR N=1, X2(P,1) = U((P+1)/2)**2,		CHIX0027
C	WHERE U IS A PERCENTAGE POINT OF NORMAL DISTRIBUTION,		CHIX0028
C	FOR N=2, X2(P,2) = -2*LN(1-P),		CHIX0029
C	FOR N=3,4,5,...., HITOTUMATU-S ITERATION METHOD IS USED,		CHIX0030
C	INITIAL VALUE IS CALCULATED BY CAMPBELL-S FORMULA, SEE		CHIX0031
C	BELL SYS. TECH. J.2(1) 95-113,1923.		CHIX0032
C			CHIX0033
C	-----		CHIX0034
C			CHIX0035
	INTEGER MN		CHIX0036
	DOUBLE PRECISION FN,X,PP,DENS,DDENS,ROOT,R,Z,PR(9)		CHIX0037
C			CHIX0038
	IER = 0		CHIX0039
	IF (P .GT. 0.000 .AND. P .LT. 1.000) GO TO 10		CHIX0040
	IER = 129		CHIX0041
	IF (P .LE. 0.000) X2 = 0.000		CHIX0042
	IF (P .GE. 0.000) X2 = 1.009		CHIX0043
	GO TO 60		CHIX0044
	10 CONTINUE		CHIX0045
C			CHIX0046
	IF (N .NE. 2) GO TO 20		CHIX0047
C			CHIX0048
CC	CASE N=2		CHIX0049
C			CHIX0050
	X2 = -DLOG(1.000-P)*2.000		CHIX0051
	GO TO 60		CHIX0052
	20 CONTINUE		CHIX0053
	IF (N .GT. 2) GO TO 30		CHIX0054
C			CHIX0055
CC	CASE N=1		CHIX0056
C			CHIX0057
	PP = 0.500*(P + 1.000)		CHIX0058
	CALL NORXD(PP, EPS, X, IER)		CHIX0059
	X2 = X*X		CHIX0060
	GO TO 60		CHIX0061
	30 CONTINUE		CHIX0062
C			CHIX0063
CC	INITIAL VALUE. FOR N=3,4,5,....		CHIX0064
C			CHIX0065
	CALL NORXD(P, EPS, X, IER)		CHIX0066
	FN = N		CHIX0067
	Z = X*X		CHIX0068
	PR(1) = (Z - 7.000)*X/36.000		CHIX0069
	PR(2) = (((-3.000*Z - 7.000)*Z + 16.000)/810.000		CHIX0070
	PR(3) = ((9.000*Z + 256.000)*Z - 433.000)*X/38880.000		CHIX0071
	PR(4) = (((12.000*Z - 243.000)*Z - 923.000)*Z + 1472.000)/		CHIX0072
	+ 204120.000		CHIX0073
	PR(5) = ((((-3753.000*Z - 4353.000)*Z + 289517.000)*Z +		CHIX0074
	+ 289717.000)*X/1469664.002		CHIX0075
	PR(6) = (((((270.000*Z + 4614.000)*Z - 9513.000)*Z - 104989.000)*		CHIX0076
	+ Z + 35968.000)/551124.002		CHIX0077
	PR(7) = (((((-5139.000*Z - 547848.000)*Z - 2742210.000)*Z +		CHIX0078
	+ 7016224.000)*Z + 37501325.000)*X/3584.002/59049.000		CHIX0079
	PR(8) = (((((-346176.000*Z + 6208146.000)*Z + 125735778.000)*		CHIX0080
	+ Z + 303753831.000)*Z - 672186949.000)*Z -		CHIX0081
	+ 2432820224.000)/17537553.000/112.003		CHIX0082

PR(9) = (((((199112985.000*Z + 1885396761.000)*Z -	CHIX0083
+ 31857434154.000)*Z - 287542736226.000)*Z - 556030221167.000)*Z	CHIX0084
+ 487855454729.000)*X/2087956777984.003	CHIX0085
X2 = FN + 1.414213562373095000*DSQRT(FN)*X + (Z - 1.000)/	CHIX0086
+ 3.000*2.000	CHIX0087
DO 40 I = 1,9	CHIX0088
X2 = X2 + DSQRT(2.000*(I+2)*FN*(-I))*PR(I)	CHIX0089
40 CONTINUE	CHIX0090
MN = 0	CHIX0091
C	CHIX0092
CC	CHIX0093
C	CHIX0094
50 CONTINUE	CHIX0095
CALL CHIFD(X2,N,PP,DENS)	CHIX0096
DDENS = DENS*(0.500 - (FN*0.500 - 1.000)/X2)	CHIX0097
R = 2.000*(P - PP)	CHIX0098
ROOT = DENS**2 - R*DDENS	CHIX0099
IF (ROOT .LE. 0.000) R = DENS/DDENS	CHIX0100
IF (ROOT .GT. 0.000) R = R/(DENS + DSQRT(ROOT))	CHIX0101
X2 = X2 + R	CHIX0102
MN = MN + 1	CHIX0103
IF (MN .EQ. 10) GO TO 60	CHIX0104
IF (DABS(R) .GT. EPS) GO TO 50	CHIX0105
60 CONTINUE	CHIX0106
RETURN	CHIX0107
END	CHIX0108

附加说明:

本标准由全国统计方法应用标准化技术委员会提出。

本标准由全国统计方法应用标准化技术委员会术语、符号和统计用表分委员会工作组起草。

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