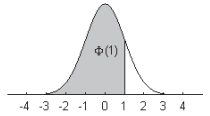
Distribuição de Poisson - Função de distribuição acumulada (cont.)

	λ					
x	17.5	18	18.5	19	19.5	20
0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
4	0.0001	0.0001	0.0001	0.0000	0.0000	0.0000
5	0.0005	0.0003	0.0002	0.0002	0.0001	0.0001
6	0.0015	0.0010	0.0007	0.0005	0.0004	0.0003
7	0.0040	0.0029	0.0021	0.0015	0.0011	0.0008
8	0.0095	0.0071	0.0052	0.0039	0.0028	0.0021
9	0.0201	0.0154	0.0117	0.0089	0.0067	0.0050
10	0.0387	0.0304	0.0237	0.0183	0.0141	0.0108
11	0.0684	0.0549	0.0438	0.0347	0.0273	0.0214
12	0.1116	0.0917	0.0748	0.0606	0.0488	0.0390
13	0.1699	0.1426	0.1189	0.0984	0.0809	0.0661
14	0.2426	0.2081	0.1771	0.1497	0.1257	0.1049
15	0.3275	0.2867	0.2490	0.2148	0.1840	0.1565
16	0.4204	0.3751	0.3321	0.2920	0.2550	0.2211
17	0.5160	0.4686	0.4226	0.3784	0.3364	0.2970
18	0.6089	0.5622	0.5156	0.4695	0.4246	0.3814
19	0.6945	0.6509	0.6061	0.5606	0.5151	0.4703
20	0.7694	0.7307	0.6898	0.6472	0.6034	0.5591
21	0.8319	0.7991	0.7636	0.7255	0.6854	0.6437
22	0.8815	0.8551	0.8256	0.7931	0.7580	0.7206
23	0.9193	0.8989	0.8755	0.8490	0.8196	0.7875
24	0.9468	0.9317	0.9139	0.8933	0.8697	0.8432
25	0.9661	0.9554	0.9424	0.9269	0.9087	0.8878
26	0.9791	0.9718	0.9626	0.9514	0.9380	0.9221
27	0.9875	0.9827	0.9765	0.9687	0.9591	0.9475
28	0.9928	0.9897	0.9857	0.9805	0.9739	0.9657
29	0.9959	0.9941	0.9915	0.9882	0.9838	0.9782
30	0.9978	0.9967	0.9951	0.9930	0.9902	0.9865
31	0.9988	0.9982	0.9973	0.9960	0.9943	0.9919
32	0.9994	0.9990	0.9985	0.9978	0.9967	0.9953
33	0.9997	0.9995	0.9992	0.9988	0.9982	0.9973
34	0.9999	0.9998	0.9996	0.9994	0.9990	0.9985
35	0.9999	0.9999	0.9998	0.9997	0.9995	0.9992
36	1.0000	0.9999	0.9999	0.9998	0.9997	0.9996
37	1.0000	1.0000	1.0000	0.9999	0.9999	0.9998
38	1.0000	1.0000	1.0000	1.0000	0.9999	0.9999
39	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999

Distribuição Normal $N(0,1)$

$Z \sim \mathrm{N}(0,1)$

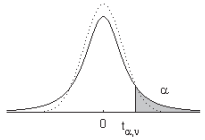
$\Phi(z) = \mathrm{P}(Z \leq z) = \int_{-\infty}^{z} \phi(u)du \;\; ; \;\; \phi(u) = \frac{1}{\sqrt{2\pi}} e^{-\frac{1}{2}u^2}$



z	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.0	0.5000	0.5040	0.5080	0.5120	0.5160	0.5199	0.5239	0.5279	0.5319	0.5359
0.1	0.5398	0.5438	0.5478	0.5517	0.5557	0.5596	0.5636	0.5675	0.5714	0.5753
0.2	0.5793	0.5832	0.5871	0.5910	0.5948	0.5987	0.6026	0.6064	0.6103	0.6141
0.3	0.6179	0.6217	0.6255	0.6293	0.6331	0.6368	0.6406	0.6443	0.6480	0.6517
0.4	0.6554	0.6591	0.6628	0.6664	0.6700	0.6736	0.6772	0.6808	0.6844	0.6879
0.5	0.6915	0.6950	0.6985	0.7019	0.7054	0.7088	0.7123	0.7157	0.7190	0.7224
0.6	0.7257	0.7291	0.7324	0.7357	0.7389	0.7422	0.7454	0.7486	0.7517	0.7549
0.7	0.7580	0.7611	0.7642	0.7673	0.7704	0.7734	0.7764	0.7794	0.7823	0.7852
0.8	0.7881	0.7910	0.7939	0.7967	0.7995	0.8023	0.8051	0.8078	0.8106	0.8133
0.9	0.8159	0.8186	0.8212	0.8238	0.8264	0.8289	0.8315	0.8340	0.8365	0.8389
1.0	0.8413	0.8438	0.8461	0.8485	0.8508	0.8531	0.8554	0.8577	0.8599	0.8621
1.1	0.8643	0.8665	0.8686	0.8708	0.8729	0.8749	0.8770	0.8790	0.8810	0.8830
1.2	0.8849	0.8869	0.8888	0.8907	0.8925	0.8944	0.8962	0.8980	0.8997	0.9015
1.3	0.9032	0.9049	0.9066	0.9082	0.9099	0.9115	0.9131	0.9147	0.9162	0.9177
1.4	0.9192	0.9207	0.9222	0.9236	0.9251	0.9265	0.9279	0.9292	0.9306	0.9319
1.5	0.9332	0.9345	0.9357	0.9370	0.9382	0.9394	0.9406	0.9418	0.9429	0.9441
1.6	0.9452	0.9463	0.9474	0.9484	0.9495	0.9505	0.9515	0.9525	0.9535	0.9545
1.7	0.9554	0.9564	0.9573	0.9582	0.9591	0.9599	0.9608	0.9616	0.9625	0.9633
1.8	0.9641	0.9649	0.9656	0.9664	0.9671	0.9678	0.9686	0.9693	0.9699	0.9706
1.9	0.9713	0.9719	0.9726	0.9732	0.9738	0.9744	0.9750	0.9756	0.9761	0.9767
2.0	0.9772	0.9778	0.9783	0.9788	0.9793	0.9798	0.9803	0.9808	0.9812	0.9817
2.1	0.9821	0.9826	0.9830	0.9834	0.9838	0.9842	0.9846	0.9850	0.9854	0.9857
2.2	0.9861	0.9864	0.9868	0.9871	0.9875	0.9878	0.9881	0.9884	0.9887	0.9890
2.3	0.9893	0.9896	0.9898	0.9901	0.9904	0.9906	0.9909	0.9911	0.9913	0.9916
2.4	0.9918	0.9920	0.9922	0.9925	0.9927	0.9929	0.9931	0.9932	0.9934	0.9936
2.5	0.9938	0.9940	0.9941	0.9943	0.9945	0.9946	0.9948	0.9949	0.9951	0.9952
2.6	0.9953	0.9955	0.9956	0.9957	0.9959	0.9960	0.9961	0.9962	0.9963	0.9964
2.7	0.9965	0.9966	0.9967	0.9968	0.9969	0.9970	0.9971	0.9972	0.9973	0.9974
2.8	0.9974	0.9975	0.9976	0.9977	0.9977	0.9978	0.9979	0.9979	0.9980	0.9981
2.9	0.9981	0.9982	0.9982	0.9983	0.9984	0.9984	0.9985	0.9985	0.9986	0.9986
3.0	0.9987	0.9987	0.9987	0.9988	0.9988	0.9989	0.9989	0.9989	0.9990	0.9990
3.1	0.9990	0.9991	0.9991	0.9991	0.9992	0.9992	0.9992	0.9992	0.9993	0.9993
3.2	0.9993	0.9993	0.9994	0.9994	0.9994	0.9994	0.9994	0.9995	0.9995	0.9995
3.3	0.9995	0.9995	0.9995	0.9996	0.9996	0.9996	0.9996	0.9996	0.9996	0.9997
3.4	0.9997	0.9997	0.9997	0.9997	0.9997	0.9997	0.9997	0.9997	0.9997	0.9998

Distribuição t-Student - percentis (1-α)

$X \sim t_\nu$



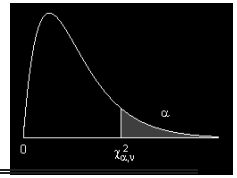
	α									
ν	0.4	0.3	0.25	0.1	0.05	0.025	0.02	0.01	0.005	0.001
1	0.3249	0.7265	1.0000	3.0777	6.3138	12.7062	15.8945	31.8205	63.6567	318.3088
2	0.2887	0.6172	0.8165	1.8856	2.9200	4.3027	4.8487	6.9646	9.9248	22.3271
3	0.2767	0.5844	0.7649	1.6377	2.3534	3.1824	3.4819	4.5407	5.8409	10.2145
4	0.2707	0.5686	0.7407	1.5332	2.1318	2.7764	2.9985	3.7469	4.6041	7.1732
5	0.2672	0.5594	0.7267	1.4759	2.0150	2.5706	2.7565	3.3649	4.0321	5.8934
6	0.2648	0.5534	0.7176	1.4398	1.9432	2.4469	2.6122	3.1427	3.7074	5.2076
7	0.2632	0.5491	0.7111	1.4149	1.8946	2.3646	2.5168	2.9980	3.4995	4.7853
8	0.2619	0.5459	0.7064	1.3968	1.8595	2.3060	2.4490	2.8965	3.3554	4.5008
9	0.2610	0.5435	0.7027	1.3830	1.8331	2.2622	2.3984	2.8214	3.2498	4.2968
10	0.2602	0.5415	0.6998	1.3722	1.8125	2.2281	2.3593	2.7638	3.1693	4.1437
11	0.2596	0.5399	0.6974	1.3634	1.7959	2.2010	2.3281	2.7181	3.1058	4.0247
12	0.2590	0.5386	0.6955	1.3562	1.7823	2.1788	2.3027	2.6810	3.0545	3.9296
13	0.2586	0.5375	0.6938	1.3502	1.7709	2.1604	2.2816	2.6503	3.0123	3.8520
14	0.2582	0.5366	0.6924	1.3450	1.7613	2.1448	2.2638	2.6245	2.9768	3.7874
15	0.2579	0.5357	0.6912	1.3406	1.7531	2.1314	2.2485	2.6025	2.9467	3.7328
16	0.2576	0.5350	0.6901	1.3368	1.7459	2.1199	2.2354	2.5835	2.9208	3.6862
17	0.2573	0.5344	0.6892	1.3334	1.7396	2.1098	2.2238	2.5669	2.8982	3.6458
18	0.2571	0.5338	0.6884	1.3304	1.7341	2.1009	2.2137	2.5524	2.8784	3.6105
19	0.2569	0.5333	0.6876	1.3277	1.7291	2.0930	2.2047	2.5395	2.8609	3.5794
20	0.2567	0.5329	0.6870	1.3253	1.7247	2.0860	2.1967	2.5280	2.8453	3.5518
21	0.2566	0.5325	0.6864	1.3232	1.7207	2.0796	2.1894	2.5176	2.8314	3.5272
22	0.2564	0.5321	0.6858	1.3212	1.7171	2.0739	2.1829	2.5083	2.8188	3.5050
23	0.2563	0.5317	0.6853	1.3195	1.7139	2.0687	2.1770	2.4999	2.8073	3.4850
24	0.2562	0.5314	0.6848	1.3178	1.7109	2.0639	2.1715	2.4922	2.7969	3.4668
25	0.2561	0.5312	0.6844	1.3163	1.7081	2.0595	2.1666	2.4851	2.7874	3.4502
26	0.2560	0.5309	0.6840	1.3150	1.7056	2.0555	2.1620	2.4786	2.7787	3.4350
27	0.2559	0.5306	0.6837	1.3137	1.7033	2.0518	2.1578	2.4727	2.7707	3.4210
28	0.2558	0.5304	0.6834	1.3125	1.7011	2.0484	2.1539	2.4671	2.7633	3.4082
29	0.2557	0.5302	0.6830	1.3114	1.6991	2.0452	2.1503	2.4620	2.7564	3.3962
30	0.2556	0.5300	0.6828	1.3104	1.6973	2.0423	2.1470	2.4573	2.7500	3.3852
31	0.2555	0.5298	0.6825	1.3095	1.6955	2.0395	2.1438	2.4528	2.7440	3.3749
32	0.2555	0.5297	0.6822	1.3086	1.6939	2.0369	2.1409	2.4487	2.7385	3.3653
33	0.2554	0.5295	0.6820	1.3077	1.6924	2.0345	2.1382	2.4448	2.7333	3.3563
34	0.2553	0.5294	0.6818	1.3070	1.6909	2.0322	2.1356	2.4411	2.7284	3.3479
35	0.2553	0.5292	0.6816	1.3062	1.6896	2.0301	2.1332	2.4377	2.7238	3.3400
36	0.2552	0.5291	0.6814	1.3055	1.6883	2.0281	2.1309	2.4345	2.7195	3.3326
37	0.2552	0.5289	0.6812	1.3049	1.6871	2.0262	2.1287	2.4314	2.7154	3.3256
38	0.2551	0.5288	0.6810	1.3042	1.6860	2.0244	2.1267	2.4286	2.7116	3.3190
39	0.2551	0.5287	0.6808	1.3036	1.6849	2.0227	2.1247	2.4258	2.7079	3.3128

Distribuição t-Student - percentis (1-α) (cont.)

	α									
ν	0.4	0.3	0.25	0.1	0.05	0.025	0.02	0.01	0.005	0.001
40	0.2550	0.5286	0.6807	1.3031	1.6839	2.0211	2.1229	2.4233	2.7045	3.3069
41	0.2550	0.5285	0.6805	1.3025	1.6829	2.0195	2.1212	2.4208	2.7012	3.3013
42	0.2550	0.5284	0.6804	1.3020	1.6820	2.0181	2.1195	2.4185	2.6981	3.2960
43	0.2549	0.5283	0.6802	1.3016	1.6811	2.0167	2.1179	2.4163	2.6951	3.2909
44	0.2549	0.5282	0.6801	1.3011	1.6802	2.0154	2.1164	2.4141	2.6923	3.2861
45	0.2549	0.5281	0.6800	1.3006	1.6794	2.0141	2.1150	2.4121	2.6896	3.2815
46	0.2548	0.5281	0.6799	1.3002	1.6787	2.0129	2.1136	2.4102	2.6870	3.2771
47	0.2548	0.5280	0.6797	1.2998	1.6779	2.0117	2.1123	2.4083	2.6846	3.2729
48	0.2548	0.5279	0.6796	1.2994	1.6772	2.0106	2.1111	2.4066	2.6822	3.2689
49	0.2547	0.5278	0.6795	1.2991	1.6766	2.0096	2.1099	2.4049	2.6800	3.2651
50	0.2547	0.5278	0.6794	1.2987	1.6759	2.0086	2.1087	2.4033	2.6778	3.2614
55	0.2546	0.5275	0.6790	1.2971	1.6730	2.0040	2.1036	2.3961	2.6682	3.2451
60	0.2545	0.5272	0.6786	1.2958	1.6706	2.0003	2.0994	2.3901	2.6603	3.2317
65	0.2544	0.5270	0.6783	1.2947	1.6686	1.9971	2.0958	2.3851	2.6536	3.2204
70	0.2543	0.5268	0.6780	1.2938	1.6669	1.9944	2.0927	2.3808	2.6479	3.2108
75	0.2542	0.5266	0.6778	1.2929	1.6654	1.9921	2.0901	2.3771	2.6430	3.2025
80	0.2542	0.5265	0.6776	1.2922	1.6641	1.9901	2.0878	2.3739	2.6387	3.1953
85	0.2541	0.5264	0.6774	1.2916	1.6630	1.9883	2.0857	2.3710	2.6349	3.1889
90	0.2541	0.5263	0.6772	1.2910	1.6620	1.9867	2.0839	2.3685	2.6316	3.1833
95	0.2541	0.5262	0.6771	1.2905	1.6611	1.9853	2.0823	2.3662	2.6286	3.1782
100	0.2540	0.5261	0.6770	1.2901	1.6602	1.9840	2.0809	2.3642	2.6259	3.1737
125	0.2539	0.5257	0.6765	1.2884	1.6571	1.9791	2.0754	2.3565	2.6157	3.1567
150	0.2538	0.5255	0.6761	1.2872	1.6551	1.9759	2.0718	2.3515	2.6090	3.1455
175	0.2537	0.5254	0.6759	1.2864	1.6536	1.9736	2.0692	2.3478	2.6042	3.1375
200	0.2537	0.5252	0.6757	1.2858	1.6525	1.9719	2.0672	2.3451	2.6006	3.1315

Distribuição Qui-quadrado - percentis (1-α)

$X \sim \chi^2_\nu$



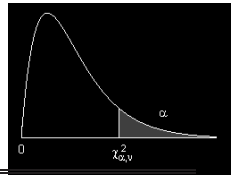
	α								
ν	0.4	0.3	0.25	0.1	0.05	0.025	0.01	0.005	0.001
1	0.7083	1.0742	1.3233	2.7055	3.8415	5.0239	6.6349	7.8794	10.8276
2	1.8326	2.4079	2.7726	4.6052	5.9915	7.3778	9.2103	10.5966	13.8155
3	2.9462	3.6649	4.1083	6.2514	7.8147	9.3484	11.3449	12.8382	16.2662
4	4.0446	4.8784	5.3853	7.7794	9.4877	11.1433	13.2767	14.8603	18.4668
5	5.1319	6.0644	6.6257	9.2364	11.0705	12.8325	15.0863	16.7496	20.5150
6	6.2108	7.2311	7.8408	10.6446	12.5916	14.4494	16.8119	18.5476	22.4577
7	7.2832	8.3834	9.0371	12.0170	14.0671	16.0128	18.4753	20.2777	24.3219
8	8.3505	9.5245	10.2189	13.3616	15.5073	17.5345	20.0902	21.9550	26.1245
9	9.4136	10.6564	11.3888	14.6837	16.9190	19.0228	21.6660	23.5894	27.8772
10	10.4732	11.7807	12.5489	15.9872	18.3070	20.4832	23.2093	25.1882	29.5883
11	11.5298	12.8987	13.7007	17.2750	19.6751	21.9200	24.7250	26.7568	31.2641
12	12.5838	14.0111	14.8454	18.5493	21.0261	23.3367	26.2170	28.2995	32.9095
13	13.6356	15.1187	15.9839	19.8119	22.3620	24.7356	27.6882	29.8195	34.5282
14	14.6853	16.2221	17.1169	21.0641	23.6848	26.1189	29.1412	31.3193	36.1233
15	15.7332	17.3217	18.2451	22.3071	24.9958	27.4884	30.5779	32.8013	37.6973
16	16.7795	18.4179	19.3689	23.5418	26.2962	28.8454	31.9999	34.2672	39.2524
17	17.8244	19.5110	20.4887	24.7690	27.5871	30.1910	33.4087	35.7185	40.7902
18	18.8679	20.6014	21.6049	25.9894	28.8693	31.5264	34.8053	37.1565	42.3124
19	19.9102	21.6891	22.7178	27.2036	30.1435	32.8523	36.1909	38.5823	43.8202
20	20.9514	22.7745	23.8277	28.4120	31.4104	34.1696	37.5662	39.9968	45.3147
21	21.9915	23.8578	24.9348	29.6151	32.6706	35.4789	38.9322	41.4011	46.7970
22	23.0307	24.9390	26.0393	30.8133	33.9244	36.7807	40.2894	42.7957	48.2679
23	24.0689	26.0184	27.1413	32.0069	35.1725	38.0756	41.6384	44.1813	49.7282
24	25.1063	27.0960	28.2412	33.1962	36.4150	39.3641	42.9798	45.5585	51.1786
25	26.1430	28.1719	29.3389	34.3816	37.6525	40.6465	44.3141	46.9279	52.6197
26	27.1789	29.2463	30.4346	35.5632	38.8851	41.9232	45.6417	48.2899	54.0520
27	28.2141	30.3193	31.5284	36.7412	40.1133	43.1945	46.9629	49.6449	55.4760
28	29.2486	31.3909	32.6205	37.9159	41.3371	44.4608	48.2782	50.9934	56.8923
29	30.2825	32.4612	33.7109	39.0875	42.5570	45.7223	49.5879	52.3356	58.3012
30	31.3159	33.5302	34.7997	40.2560	43.7730	46.9792	50.8922	53.6720	59.7031
31	32.3486	34.5981	35.8871	41.4217	44.9853	48.2319	52.1914	55.0027	61.0983
32	33.3809	35.6649	36.9730	42.5847	46.1943	49.4804	53.4858	56.3281	62.4872
33	34.4126	36.7307	38.0575	43.7452	47.3999	50.7251	54.7755	57.6484	63.8701
34	35.4438	37.7954	39.1408	44.9032	48.6024	51.9660	56.0609	58.9639	65.2472
35	36.4746	38.8591	40.2228	46.0588	49.8018	53.2033	57.3421	60.2748	66.6188
36	37.5049	39.9220	41.3036	47.2122	50.9985	54.4373	58.6192	61.5812	67.9852
37	38.5348	40.9839	42.3833	48.3634	52.1923	55.6680	59.8925	62.8833	69.3465
38	39.5643	42.0451	43.4619	49.5126	53.3835	56.8955	61.1621	64.1814	70.7029
39	40.5935	43.1053	44.5395	50.6598	54.5722	58.1201	62.4281	65.4756	72.0547

Distribuição Qui-quadrado - percentis (1-α) (cont.)

	α								
ν	0.4	0.3	0.25	0.1	0.05	0.025	0.01	0.005	0.001
40	41.6222	44.1649	45.6160	51.8051	55.7585	59.3417	63.6907	66.7660	73.4020
41	42.6506	45.2236	46.6916	52.9485	56.9424	60.5606	64.9501	68.0527	74.7449
42	43.6786	46.2817	47.7663	54.0902	58.1240	61.7768	66.2062	69.3360	76.0838
43	44.7063	47.3390	48.8400	55.2302	59.3035	62.9904	67.4593	70.6159	77.4186
44	45.7336	48.3957	49.9129	56.3685	60.4809	64.2015	68.7095	71.8926	78.7495
45	46.7607	49.4517	50.9849	57.5053	61.6562	65.4102	69.9568	73.1661	80.0767
46	47.7874	50.5071	52.0562	58.6405	62.8296	66.6165	71.2014	74.4365	81.4003
47	48.8139	51.5619	53.1267	59.7743	64.0011	67.8206	72.4433	75.7041	82.7204
48	49.8401	52.6161	54.1964	60.9066	65.1708	69.0226	73.6826	76.9688	84.0371
49	50.8660	53.6697	55.2653	62.0375	66.3386	70.2224	74.9195	78.2307	85.3506
50	51.8916	54.7228	56.3336	63.1671	67.5048	71.4202	76.1539	79.4900	86.6608
55	57.0160	59.9805	61.6650	68.7962	73.3115	77.3805	82.2921	85.7490	93.1675
60	62.1348	65.2265	66.9815	74.3970	79.0819	83.2977	88.3794	91.9517	99.6072
65	67.2488	70.4624	72.2848	79.9730	84.8206	89.1771	94.4221	98.1051	105.9881
70	72.3583	75.6893	77.5767	85.5270	90.5312	95.0232	100.4252	104.2149	112.3169
75	77.4640	80.9081	82.8581	91.0615	96.2167	100.8393	106.3929	110.2856	118.5991
80	82.5663	86.1197	88.1303	96.5782	101.8795	106.6286	112.3288	116.3211	124.8392
85	87.6653	91.3247	93.3939	102.0789	107.5217	112.3934	118.2357	122.3246	131.0412
90	92.7614	96.5238	98.6499	107.5650	113.1453	118.1359	124.1163	128.2989	137.2084
95	97.8549	101.7173	103.8988	113.0377	118.7516	123.8580	129.9727	134.2465	143.3435
100	102.9459	106.9058	109.1412	118.4980	124.3421	129.5612	135.8067	140.1695	149.4493
125	128.3702	132.7839	135.2707	145.6430	152.0939	157.8385	164.6940	169.4714	179.6040
150	153.7535	158.5774	161.2912	172.5812	179.5806	185.8004	193.2077	198.3602	209.2646
175	179.1058	184.3067	187.2293	199.3630	206.8668	213.5236	221.4384	226.9360	238.5508
200	204.4337	209.9854	213.1022	226.0210	233.9943	241.0579	249.4451	255.2642	267.5405

Distribuição Qui-quadrado - percentis (1-α)

$X \sim \chi^2_\nu$

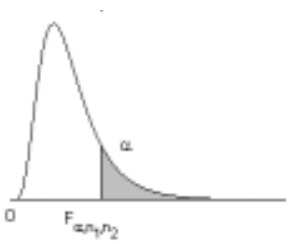


	α								
ν	0.6	0.7	0.75	0.9	0.95	0.975	0.99	0.995	0.999
1	0.2750	0.1485	0.1015	0.0158	0.0039	0.0010	0.0002	0.0000	0.0000
2	1.0217	0.7133	0.5754	0.2107	0.1026	0.0506	0.0201	0.0100	0.0020
3	1.8692	1.4237	1.2125	0.5844	0.3518	0.2158	0.1148	0.0717	0.0243
4	2.7528	2.1947	1.9226	1.0636	0.7107	0.4844	0.2971	0.2070	0.0908
5	3.6555	2.9999	2.6746	1.6103	1.1455	0.8312	0.5543	0.4117	0.2102
6	4.5702	3.8276	3.4546	2.2041	1.6354	1.2373	0.8721	0.6757	0.3811
7	5.4932	4.6713	4.2549	2.8331	2.1673	1.6899	1.2390	0.9893	0.5985
8	6.4226	5.5274	5.0706	3.4895	2.7326	2.1797	1.6465	1.3444	0.8571
9	7.3570	6.3933	5.8988	4.1682	3.3251	2.7004	2.0879	1.7349	1.1519
10	8.2955	7.2672	6.7372	4.8652	3.9403	3.2470	2.5582	2.1559	1.4787
11	9.2373	8.1479	7.5841	5.5778	4.5748	3.8157	3.0535	2.6032	1.8339
12	10.1820	9.0343	8.4384	6.3038	5.2260	4.4038	3.5706	3.0738	2.2142
13	11.1291	9.9257	9.2991	7.0415	5.8919	5.0088	4.1069	3.5650	2.6172
14	12.0785	10.8215	10.1653	7.7895	6.5706	5.6287	4.6604	4.0747	3.0407
15	13.0297	11.7212	11.0365	8.5468	7.2609	6.2621	5.2293	4.6009	3.4827
16	13.9827	12.6243	11.9122	9.3122	7.9616	6.9077	5.8122	5.1422	3.9416
17	14.9373	13.5307	12.7919	10.0852	8.6718	7.5642	6.4078	5.6972	4.4161
18	15.8932	14.4399	13.6753	10.8649	9.3905	8.2307	7.0149	6.2648	4.9048
19	16.8504	15.3517	14.5620	11.6509	10.1170	8.9065	7.6327	6.8440	5.4068
20	17.8088	16.2659	15.4518	12.4426	10.8508	9.5908	8.2604	7.4338	5.9210
21	18.7683	17.1823	16.3444	13.2396	11.5913	10.2829	8.8972	8.0337	6.4467
22	19.7288	18.1007	17.2396	14.0415	12.3380	10.9823	9.5425	8.6427	6.9830
23	20.6902	19.0211	18.1373	14.8480	13.0905	11.6886	10.1957	9.2604	7.5292
24	21.6525	19.9432	19.0373	15.6587	13.8484	12.4012	10.8564	9.8862	8.0849
25	22.6156	20.8670	19.9393	16.4734	14.6114	13.1197	11.5240	10.5197	8.6493
26	23.5794	21.7924	20.8434	17.2919	15.3792	13.8439	12.1981	11.1602	9.2221
27	24.5440	22.7192	21.7494	18.1139	16.1514	14.5734	12.8785	11.8076	9.8028
28	25.5093	23.6475	22.6572	18.9392	16.9279	15.3079	13.5647	12.4613	10.3909
29	26.4751	24.5770	23.5666	19.7677	17.7084	16.0471	14.2565	13.1211	10.9861
30	27.4416	25.5078	24.4776	20.5992	18.4927	16.7908	14.9535	13.7867	11.5880
31	28.4087	26.4397	25.3901	21.4336	19.2806	17.5387	15.6555	14.4578	12.1963
32	29.3763	27.3728	26.3041	22.2706	20.0719	18.2908	16.3622	15.1340	12.8107
33	30.3444	28.3069	27.2194	23.1102	20.8665	19.0467	17.0735	15.8153	13.4309
34	31.3130	29.2421	28.1361	23.9523	21.6643	19.8063	17.7891	16.5013	14.0567
35	32.2821	30.1782	29.0540	24.7967	22.4650	20.5694	18.5089	17.1918	14.6878
36	33.2517	31.1152	29.9730	25.6433	23.2686	21.3359	19.2327	17.8867	15.3241
37	34.2216	32.0532	30.8933	26.4921	24.0749	22.1056	19.9602	18.5858	15.9653
38	35.1920	32.9919	31.8146	27.3430	24.8839	22.8785	20.6914	19.2889	16.6112
39	36.1628	33.9315	32.7369	28.1958	25.6954	23.6543	21.4262	19.9959	17.2616

Distribuição Qui-quadrado - percentis (1-α) (cont.)

	α								
ν	0.6	0.7	0.75	0.9	0.95	0.975	0.99	0.995	0.999
40	37.1340	34.8719	33.6603	29.0505	26.5093	24.4330	22.1643	20.7065	17.9164
41	38.1055	35.8131	34.5846	29.9071	27.3256	25.2145	22.9056	21.4208	18.5754
42	39.0774	36.7550	35.5099	30.7654	28.1440	25.9987	23.6501	22.1385	19.2385
43	40.0496	37.6975	36.4361	31.6255	28.9647	26.7854	24.3976	22.8595	19.9055
44	41.0222	38.6408	37.3631	32.4871	29.7875	27.5746	25.1480	23.5837	20.5763
45	41.9950	39.5847	38.2910	33.3504	30.6123	28.3662	25.9013	24.3110	21.2507
46	42.9682	40.5292	39.2197	34.2152	31.4390	29.1601	26.6572	25.0413	21.9287
47	43.9417	41.4744	40.1492	35.0814	32.2676	29.9562	27.4158	25.7746	22.6101
48	44.9154	42.4201	41.0794	35.9491	33.0981	30.7545	28.1770	26.5106	23.2949
49	45.8895	43.3664	42.0104	36.8182	33.9303	31.5549	28.9406	27.2493	23.9828
50	46.8638	44.3133	42.9421	37.6886	34.7643	32.3574	29.7067	27.9907	24.6739
55	51.7391	49.0554	47.6105	42.0596	38.9580	36.3981	33.5705	31.7348	28.1731
60	56.6200	53.8091	52.2938	46.4589	43.1880	40.4817	37.4849	35.5345	31.7383
65	61.5059	58.5731	56.9903	50.8829	47.4496	44.6030	41.4436	39.3831	35.3616
70	66.3961	63.3460	61.6983	55.3289	51.7393	48.7576	45.4417	43.2752	39.0364
75	71.2903	68.1271	66.4168	59.7946	56.0541	52.9419	49.4750	47.2060	42.7573
80	76.1879	72.9153	71.1445	64.2778	60.3915	57.1532	53.5401	51.1719	46.5199
85	81.0888	77.7102	75.8807	68.7772	64.7494	61.3888	57.6339	55.1696	50.3203
90	85.9925	82.5111	80.6247	73.2911	69.1260	65.6466	61.7541	59.1963	54.1552
95	90.8990	87.3175	85.3757	77.8184	73.5198	69.9249	65.8984	63.2496	58.0220
100	95.8078	92.1289	90.1332	82.3581	77.9295	74.2219	70.0649	67.3276	61.9179
125	120.3833	116.2505	114.0035	105.2132	100.1782	95.9457	91.1798	88.0289	81.7697
150	144.9998	140.4569	137.9829	128.2751	122.6918	117.9845	112.6676	109.1422	102.1133
175	169.6473	164.7274	162.0447	151.4933	145.4058	140.2619	134.4379	130.5680	122.8302
200	194.3193	189.0486	186.1717	174.8353	168.2786	162.7280	156.4320	152.2410	143.8428

Distribuição F de Fisher-Snedecor
$X \sim F_{n_1,n_2}$



- Propriedades
  - A distribuição F_{n_1,n_2} tem dois parâmetros, n_1,$n_2 > 0$, que se designam por *graus de liberdade* do numerador e do denominador, respectivamente.
  - $\mathrm{E}(X) = n_2/(n_2-2)$, $n_2 > 2$, $\mathrm{V}(X) = \frac{2n_2^2(n_1+n_2-2)}{n_1(n_2-2)^2(n_2-4)}$, $n_2 > 4$.
  - Se $U \sim \chi^2_{n_1}$ e $V \sim \chi^2_{n_2}$, U e V independentes então $X = \frac{U/n_1}{V/n_2} \sim F_{n_1,n_2}$.
  - Se $X \sim F_{n_1,n_2}$ então $Y = \frac{1}{X} \sim F_{n_2,n_1}$.
  - Se $X \sim F_{n_1,n_2}$ então $W = \frac{n_1 X/n_2}{1+n_1 X/n_2}$ tem uma distribuição beta com parametros $n_1/2$ e $n_2/2$.
  - Se $Y_1,\ldots,Y_n$ e $U_1,\ldots,U_m$ são amostras aleatórias independentes de populações $N(\mu_Y,\sigma^2_Y)$ e $N(\mu_U,\sigma^2_U)$ então
    $$X = \frac{(m-1)S^2_U/\sigma^2_U}{(n-1)S^2_Y/\sigma^2_Y} \sim F_{m,n}$$
    onde $S^2_U = \frac{1}{m-1}\sum_{i=1}^m (U_i - \overline{U})^2$ e $S^2_Y = \frac{1}{n-1}\sum_{i=1}^m (Y_i - \overline{Y})^2$.
- Ilustração do uso da tabela
  - $X \sim F_{2,6}$, $\mathrm{P}(X \geq 5.143) = 0.05$
  - Se $X \sim F_{15,20}$ então $Y = 1/X \sim F_{20,15}$ e
    $$\mathrm{P}(X \leq 1/2.573) = \mathrm{P}(Y \geq 2.573) = 0.025$$
  - $X \sim F_{16,22}$, $\mathrm{P}(X \geq (2.498 + (2.389 - 2.498)\frac{16-15}{20-15})) = 0.025$
- Informação complementar (de índole computacional)
  - Cálculo da função densidade: *fpdf* - Matlab
  - Cálculo da função de distribuição: *fcdf* - Matlab
  - Cálculo dos percentis: *finv* - Matlab

O Excel implementa algumas funções associadas a esta distribuição. Não se indicam essas funções, uma vez que se verifica alguma "volatilidade" na sua designação entre diferentes versões. Verifica-se ainda que a descrição das rotinas nem sempre está correcta, pelo que se recomenda que estas sejam numericamente testadas em situações conhecidas.

Distribuição F_{n_1,n_2} - percentis para α=0.1

	n_1																		
n_2	1	2	3	4	5	6	7	8	9	10	12	15	20	25	30	50	75	100	150
1	39.86	49.50	53.59	55.83	57.24	58.20	58.90	59.43	59.85	60.19	60.70	61.22	61.74	62.05	62.26	62.68	62.90	63.00	63.11
2	8.526	9.000	9.161	9.243	9.292	9.325	9.349	9.366	9.380	9.391	9.408	9.424	9.441	9.451	9.457	9.471	9.477	9.481	9.484
3	5.538	5.462	5.390	5.342	5.309	5.284	5.266	5.251	5.240	5.230	5.215	5.200	5.184	5.174	5.168	5.154	5.147	5.144	5.140
4	4.544	4.324	4.190	4.107	4.050	4.009	3.979	3.954	3.935	3.919	3.895	3.870	3.844	3.828	3.817	3.795	3.783	3.778	3.772
5	4.060	3.779	3.619	3.520	3.453	3.404	3.367	3.339	3.316	3.297	3.268	3.238	3.206	3.187	3.174	3.147	3.133	3.126	3.119
6	3.775	3.463	3.288	3.180	3.107	3.054	3.014	2.983	2.957	2.936	2.904	2.871	2.836	2.814	2.800	2.769	2.754	2.746	2.738
7	3.589	3.257	3.074	2.960	2.883	2.827	2.784	2.751	2.724	2.702	2.668	2.632	2.594	2.571	2.555	2.522	2.505	2.497	2.488
8	3.457	3.113	2.923	2.806	2.726	2.668	2.624	2.589	2.561	2.538	2.502	2.464	2.424	2.399	2.383	2.348	2.330	2.320	2.311
9	3.360	3.006	2.812	2.692	2.610	2.550	2.505	2.469	2.440	2.416	2.378	2.339	2.298	2.272	2.254	2.218	2.198	2.189	2.179
10	3.285	2.924	2.727	2.605	2.521	2.460	2.414	2.377	2.347	2.322	2.284	2.243	2.200	2.173	2.155	2.117	2.097	2.086	2.076
11	3.225	2.859	2.660	2.536	2.451	2.389	2.341	2.304	2.273	2.248	2.208	2.167	2.123	2.095	2.076	2.036	2.015	2.005	1.994
12	3.176	2.806	2.605	2.480	2.394	2.331	2.282	2.244	2.213	2.187	2.147	2.104	2.059	2.031	2.011	1.970	1.948	1.937	1.926
13	3.136	2.763	2.560	2.433	2.346	2.283	2.234	2.195	2.163	2.137	2.096	2.053	2.007	1.977	1.957	1.915	1.893	1.881	1.870
14	3.102	2.726	2.522	2.394	2.306	2.242	2.193	2.153	2.122	2.095	2.053	2.009	1.962	1.932	1.911	1.868	1.845	1.834	1.822
15	3.073	2.695	2.489	2.361	2.273	2.208	2.158	2.118	2.086	2.059	2.017	1.972	1.924	1.893	1.872	1.828	1.804	1.792	1.780
16	3.048	2.668	2.461	2.332	2.243	2.178	2.128	2.088	2.055	2.028	1.985	1.939	1.891	1.860	1.838	1.793	1.769	1.757	1.744
17	3.026	2.644	2.437	2.307	2.218	2.152	2.101	2.061	2.028	2.000	1.957	1.911	1.862	1.830	1.809	1.762	1.738	1.725	1.712
18	3.007	2.623	2.416	2.285	2.195	2.129	2.078	2.037	2.004	1.977	1.933	1.886	1.836	1.804	1.782	1.735	1.710	1.697	1.684
19	2.989	2.605	2.397	2.266	2.176	2.109	2.058	2.017	1.983	1.955	1.911	1.864	1.814	1.781	1.759	1.711	1.685	1.672	1.659
20	2.974	2.589	2.380	2.248	2.158	2.091	2.039	1.998	1.964	1.936	1.892	1.844	1.793	1.761	1.738	1.689	1.663	1.650	1.636
21	2.961	2.574	2.364	2.233	2.142	2.075	2.023	1.981	1.948	1.919	1.875	1.827	1.775	1.742	1.719	1.670	1.643	1.629	1.615
22	2.948	2.561	2.351	2.219	2.127	2.060	2.008	1.966	1.932	1.904	1.859	1.811	1.759	1.725	1.702	1.652	1.625	1.611	1.596
23	2.937	2.549	2.338	2.206	2.114	2.047	1.994	1.953	1.918	1.890	1.845	1.796	1.743	1.710	1.686	1.635	1.608	1.594	1.579
24	2.927	2.538	2.327	2.194	2.103	2.035	1.982	1.940	1.906	1.877	1.831	1.783	1.730	1.696	1.672	1.620	1.593	1.578	1.564
25	2.917	2.528	2.317	2.184	2.092	2.024	1.971	1.929	1.894	1.865	1.820	1.770	1.717	1.683	1.658	1.607	1.579	1.564	1.549
30	2.880	2.488	2.276	2.142	2.049	1.980	1.926	1.884	1.849	1.819	1.772	1.722	1.667	1.631	1.606	1.552	1.522	1.506	1.490
35	2.854	2.460	2.247	2.112	2.019	1.949	1.895	1.852	1.816	1.786	1.739	1.688	1.631	1.595	1.569	1.512	1.481	1.465	1.448
40	2.835	2.440	2.226	2.090	1.996	1.926	1.872	1.828	1.792	1.762	1.714	1.662	1.605	1.567	1.541	1.483	1.450	1.433	1.415
50	2.808	2.412	2.196	2.060	1.966	1.895	1.840	1.796	1.759	1.729	1.680	1.626	1.568	1.529	1.501	1.440	1.406	1.388	1.369
75	2.773	2.374	2.158	2.021	1.925	1.854	1.798	1.753	1.716	1.685	1.634	1.579	1.518	1.478	1.449	1.383	1.346	1.326	1.304
100	2.756	2.356	2.139	2.001	1.905	1.833	1.777	1.732	1.694	1.663	1.612	1.556	1.494	1.452	1.422	1.354	1.315	1.293	1.269
150	2.739	2.338	2.120	1.982	1.886	1.813	1.757	1.711	1.673	1.641	1.590	1.533	1.469	1.427	1.396	1.325	1.283	1.259	1.233

Distribuição F_{n_1,n_2} - percentis para α=0.05

	n_1																		
n_2	1	2	3	4	5	6	7	8	9	10	12	15	20	25	30	50	75	100	150
1	161.4	199.5	215.7	224.5	230.1	233.9	236.7	238.8	240.5	241.8	243.9	245.9	248.0	249.2	250.0	251.7	252.6	253.0	253.4
2	18.51	19.00	19.16	19.24	19.29	19.32	19.35	19.37	19.38	19.39	19.41	19.42	19.44	19.45	19.46	19.47	19.48	19.48	19.48
3	10.12	9.552	9.276	9.117	9.013	8.940	8.886	8.845	8.812	8.785	8.744	8.702	8.660	8.634	8.616	8.581	8.563	8.553	8.544
4	7.708	6.944	6.591	6.388	6.256	6.163	6.094	6.041	5.998	5.964	5.911	5.857	5.802	5.768	5.745	5.699	5.675	5.664	5.652
5	6.607	5.786	5.409	5.192	5.050	4.950	4.875	4.818	4.772	4.735	4.677	4.618	4.558	4.520	4.495	4.444	4.418	4.405	4.391
6	5.987	5.143	4.757	4.533	4.387	4.283	4.206	4.146	4.099	4.060	3.999	3.938	3.874	3.834	3.808	3.753	3.725	3.711	3.697
7	5.591	4.737	4.346	4.120	3.971	3.866	3.787	3.725	3.676	3.636	3.574	3.510	3.444	3.403	3.375	3.318	3.289	3.274	3.260
8	5.317	4.459	4.066	3.837	3.687	3.580	3.500	3.438	3.388	3.347	3.283	3.218	3.150	3.108	3.079	3.020	2.990	2.974	2.959
9	5.117	4.256	3.862	3.633	3.481	3.373	3.292	3.229	3.178	3.137	3.072	3.006	2.936	2.893	2.863	2.802	2.771	2.755	2.739
10	4.964	4.102	3.708	3.478	3.325	3.217	3.135	3.071	3.020	2.978	2.913	2.845	2.774	2.729	2.699	2.637	2.604	2.588	2.571
11	4.844	3.982	3.587	3.356	3.203	3.094	3.012	2.948	2.896	2.853	2.787	2.718	2.646	2.601	2.570	2.506	2.473	2.456	2.439
12	4.747	3.885	3.490	3.259	3.105	2.996	2.913	2.848	2.796	2.753	2.686	2.616	2.543	2.497	2.466	2.401	2.367	2.349	2.332
13	4.667	3.805	3.410	3.179	3.025	2.915	2.832	2.766	2.714	2.671	2.603	2.533	2.458	2.412	2.380	2.313	2.279	2.261	2.243
14	4.600	3.738	3.343	3.112	2.958	2.847	2.764	2.698	2.645	2.602	2.534	2.463	2.387	2.340	2.308	2.240	2.205	2.187	2.168
15	4.543	3.682	3.287	3.055	2.901	2.790	2.706	2.640	2.587	2.543	2.475	2.403	2.327	2.279	2.246	2.178	2.141	2.123	2.104
16	4.494	3.633	3.238	3.006	2.852	2.741	2.657	2.591	2.537	2.493	2.424	2.352	2.275	2.227	2.193	2.124	2.087	2.068	2.049
17	4.451	3.591	3.196	2.964	2.810	2.698	2.614	2.548	2.494	2.449	2.380	2.307	2.230	2.181	2.147	2.076	2.039	2.020	2.000
18	4.413	3.554	3.159	2.927	2.772	2.661	2.576	2.510	2.456	2.411	2.342	2.268	2.190	2.141	2.107	2.035	1.997	1.978	1.958
19	4.38	3.521	3.127	2.895	2.740	2.628	2.543	2.476	2.422	2.377	2.308	2.234	2.155	2.105	2.071	1.998	1.960	1.940	1.920
20	4.351	3.492	3.098	2.866	2.710	2.599	2.514	2.447	2.392	2.347	2.277	2.203	2.124	2.073	2.039	1.965	1.926	1.906	1.886
21	4.324	3.466	3.072	2.840	2.684	2.572	2.487	2.420	2.366	2.321	2.250	2.175	2.096	2.045	2.010	1.936	1.896	1.876	1.855
22	4.300	3.443	3.049	2.816	2.661	2.549	2.463	2.396	2.341	2.296	2.225	2.150	2.070	2.019	1.984	1.909	1.869	1.848	1.827
23	4.279	3.422	3.028	2.795	2.640	2.527	2.442	2.374	2.320	2.274	2.203	2.128	2.047	1.996	1.960	1.884	1.844	1.823	1.801
24	4.259	3.402	3.008	2.776	2.620	2.508	2.422	2.355	2.300	2.254	2.183	2.107	2.026	1.975	1.939	1.862	1.821	1.800	1.778
25	4.241	3.385	2.991	2.758	2.603	2.490	2.404	2.337	2.282	2.236	2.164	2.088	2.007	1.955	1.919	1.842	1.800	1.779	1.757
30	4.170	3.315	2.922	2.689	2.533	2.420	2.334	2.266	2.210	2.164	2.092	2.014	1.931	1.878	1.840	1.760	1.717	1.695	1.671
35	4.121	3.267	2.874	2.641	2.485	2.371	2.285	2.216	2.160	2.114	2.041	1.962	1.878	1.823	1.785	1.703	1.658	1.634	1.610
40	4.084	3.231	2.838	2.606	2.449	2.335	2.249	2.180	2.124	2.077	2.003	1.924	1.838	1.783	1.744	1.660	1.613	1.589	1.563
50	4.034	3.182	2.790	2.557	2.400	2.286	2.199	2.129	2.073	2.026	1.951	1.871	1.784	1.727	1.687	1.599	1.550	1.524	1.497
75	3.968	3.118	2.726	2.493	2.336	2.222	2.134	2.064	2.007	1.959	1.883	1.801	1.712	1.653	1.611	1.518	1.465	1.437	1.406
100	3.936	3.087	2.695	2.462	2.305	2.190	2.102	2.032	1.974	1.926	1.850	1.767	1.676	1.616	1.573	1.477	1.422	1.391	1.359
150	3.904	3.056	2.664	2.432	2.274	2.159	2.071	2.000	1.942	1.894	1.817	1.733	1.641	1.579	1.535	1.435	1.377	1.344	1.309

Distribuição F_{n_1,n_2} - percentis para α=0.025

	n_1																		
n_2	1	2	3	4	5	6	7	8	9	10	12	15	20	25	30	50	75	100	150
1	647.7	799.5	864.1	899.5	921.8	937.1	948.2	956.6	963.2	968.6	976.7	984.8	993.1	998.0	1001	1008	1011	1013	1014
2	38.50	39.00	39.16	39.24	39.29	39.33	39.35	39.37	39.38	39.39	39.41	39.43	39.44	39.45	39.46	39.47	39.48	39.48	39.49
3	17.44	16.04	15.43	15.10	14.88	14.73	14.62	14.53	14.47	14.41	14.33	14.25	14.16	14.11	14.08	14.00	13.97	13.95	13.93
4	12.21	10.64	9.979	9.604	9.364	9.197	9.074	8.979	8.904	8.843	8.751	8.656	8.559	8.501	8.461	8.380	8.340	8.319	8.298
5	10.00	8.433	7.763	7.387	7.146	6.977	6.853	6.757	6.681	6.619	6.524	6.427	6.328	6.267	6.226	6.143	6.101	6.080	6.058
6	8.813	7.259	6.598	6.227	5.987	5.819	5.695	5.599	5.523	5.461	5.366	5.268	5.168	5.106	5.065	4.980	4.937	4.915	4.893
7	8.072	6.541	5.889	5.522	5.285	5.118	4.994	4.899	4.823	4.761	4.665	4.567	4.466	4.404	4.362	4.276	4.232	4.210	4.187
8	7.570	6.059	5.416	5.052	4.817	4.651	4.528	4.433	4.357	4.295	4.199	4.101	3.999	3.936	3.894	3.806	3.762	3.739	3.716
9	7.209	5.714	5.078	4.718	4.484	4.319	4.197	4.102	4.026	3.963	3.868	3.769	3.666	3.603	3.560	3.471	3.426	3.403	3.380
10	6.936	5.456	4.825	4.468	4.236	4.072	3.949	3.854	3.779	3.716	3.620	3.521	3.418	3.354	3.311	3.221	3.175	3.151	3.128
11	6.724	5.255	4.630	4.275	4.044	3.880	3.758	3.663	3.587	3.525	3.429	3.329	3.226	3.161	3.117	3.026	2.980	2.956	2.932
12	6.553	5.095	4.474	4.121	3.891	3.728	3.606	3.511	3.435	3.373	3.277	3.177	3.072	3.007	2.963	2.871	2.823	2.799	2.775
13	6.414	4.965	4.347	3.995	3.766	3.604	3.482	3.388	3.312	3.249	3.153	3.052	2.947	2.882	2.837	2.744	2.696	2.671	2.646
14	6.297	4.856	4.241	3.891	3.663	3.501	3.379	3.285	3.209	3.146	3.050	2.949	2.843	2.777	2.732	2.638	2.589	2.564	2.539
15	6.199	4.765	4.152	3.804	3.576	3.414	3.293	3.198	3.122	3.060	2.963	2.862	2.755	2.689	2.643	2.548	2.499	2.473	2.448
16	6.115	4.686	4.076	3.729	3.502	3.340	3.219	3.124	3.048	2.986	2.889	2.787	2.680	2.613	2.567	2.471	2.421	2.396	2.370
17	6.042	4.618	4.011	3.664	3.437	3.276	3.155	3.061	2.984	2.922	2.824	2.723	2.615	2.548	2.502	2.405	2.354	2.328	2.302
18	5.978	4.559	3.953	3.608	3.382	3.220	3.099	3.005	2.929	2.866	2.768	2.666	2.559	2.491	2.444	2.346	2.295	2.269	2.242
19	5.921	4.507	3.903	3.558	3.332	3.171	3.050	2.956	2.880	2.817	2.719	2.617	2.508	2.440	2.393	2.295	2.243	2.216	2.189
20	5.871	4.461	3.858	3.514	3.289	3.128	3.007	2.912	2.836	2.773	2.675	2.573	2.464	2.395	2.348	2.249	2.196	2.169	2.142
21	5.826	4.419	3.818	3.475	3.250	3.089	2.968	2.874	2.797	2.734	2.636	2.533	2.424	2.355	2.308	2.208	2.155	2.128	2.100
22	5.786	4.382	3.782	3.440	3.215	3.054	2.933	2.839	2.762	2.699	2.601	2.498	2.389	2.319	2.271	2.171	2.117	2.090	2.061
23	5.749	4.349	3.750	3.408	3.183	3.023	2.902	2.807	2.731	2.668	2.569	2.466	2.356	2.287	2.238	2.137	2.083	2.055	2.027
24	5.716	4.318	3.721	3.379	3.154	2.994	2.873	2.779	2.702	2.639	2.541	2.437	2.327	2.257	2.209	2.106	2.052	2.024	1.995
25	5.686	4.290	3.694	3.353	3.128	2.968	2.847	2.753	2.676	2.613	2.514	2.411	2.300	2.230	2.181	2.078	2.023	1.995	1.966
30	5.567	4.182	3.589	3.249	3.026	2.866	2.746	2.651	2.574	2.511	2.412	2.307	2.195	2.123	2.073	1.968	1.911	1.881	1.851
35	5.484	4.106	3.516	3.178	2.955	2.796	2.675	2.58	2.503	2.440	2.340	2.235	2.121	2.049	1.998	1.890	1.831	1.800	1.769
40	5.423	4.051	3.463	3.126	2.903	2.744	2.623	2.528	2.451	2.388	2.288	2.181	2.067	1.994	1.942	1.832	1.772	1.740	1.707
50	5.340	3.974	3.390	3.054	2.832	2.673	2.553	2.457	2.380	2.316	2.216	2.109	1.993	1.918	1.865	1.752	1.689	1.655	1.621
75	5.231	3.876	3.295	2.961	2.740	2.582	2.461	2.366	2.288	2.224	2.122	2.014	1.896	1.819	1.764	1.645	1.577	1.541	1.503
100	5.178	3.828	3.249	2.916	2.696	2.537	2.416	2.321	2.243	2.179	2.077	1.967	1.848	1.770	1.714	1.591	1.521	1.483	1.442
150	5.126	3.781	3.204	2.872	2.652	2.493	2.373	2.277	2.199	2.134	2.032	1.922	1.801	1.722	1.665	1.537	1.464	1.423	1.378

Distribuição F_{n_1,n_2} - percentis para α=0.01

	n_1																		
n_2	1	2	3	4	5	6	7	8	9	10	12	15	20	25	30	50	75	100	150
1	4052	4999	5403	5624	5763	5858	5928	5981	6022	6055	6106	6157	6208	6239	6260	6302	6323	6334	6344
2	98.50	99.00	99.16	99.24	99.29	99.33	99.35	99.37	99.38	99.39	99.41	99.43	99.44	99.45	99.46	99.47	99.48	99.48	99.49
3	34.11	30.81	29.45	28.70	28.23	27.91	27.67	27.48	27.34	27.22	27.05	26.87	26.68	26.57	26.50	26.35	26.27	26.24	26.20
4	21.19	18.00	16.69	15.97	15.52	15.20	14.97	14.79	14.65	14.54	14.37	14.19	14.01	13.91	13.83	13.68	13.61	13.57	13.53
5	16.25	13.27	12.06	11.39	10.96	10.67	10.45	10.28	10.15	10.05	9.888	9.722	9.552	9.449	9.379	9.237	9.166	9.129	9.093
6	13.74	10.92	9.779	9.148	8.745	8.466	8.26	8.101	7.976	7.874	7.718	7.559	7.395	7.296	7.228	7.091	7.021	6.986	6.951
7	12.24	9.546	8.451	7.846	7.460	7.191	6.992	6.840	6.718	6.620	6.469	6.314	6.155	6.058	5.992	5.857	5.789	5.754	5.719
8	11.25	8.649	7.591	7.006	6.631	6.370	6.177	6.028	5.910	5.814	5.666	5.515	5.359	5.263	5.198	5.065	4.997	4.963	4.928
9	10.56	8.021	6.991	6.422	6.056	5.801	5.612	5.467	5.351	5.256	5.111	4.962	4.808	4.713	4.648	4.516	4.449	4.415	4.380
10	10.04	7.559	6.552	5.994	5.636	5.385	5.200	5.056	4.942	4.849	4.705	4.558	4.405	4.311	4.246	4.115	4.047	4.013	3.979
11	9.646	7.205	6.216	5.668	5.316	5.069	4.886	4.744	4.631	4.539	4.397	4.250	4.099	4.005	3.941	3.809	3.742	3.707	3.673
12	9.330	6.926	5.952	5.412	5.064	4.820	4.639	4.499	4.387	4.296	4.155	4.009	3.858	3.764	3.700	3.569	3.501	3.466	3.431
13	9.073	6.701	5.739	5.205	4.861	4.620	4.441	4.302	4.191	4.100	3.960	3.815	3.664	3.571	3.507	3.375	3.307	3.272	3.237
14	8.861	6.514	5.563	5.035	4.695	4.455	4.277	4.139	4.029	3.939	3.800	3.655	3.505	3.411	3.347	3.215	3.146	3.111	3.076
15	8.683	6.358	5.417	4.893	4.555	4.318	4.141	4.004	3.894	3.804	3.666	3.522	3.371	3.278	3.214	3.081	3.012	2.977	2.941
16	8.531	6.226	5.292	4.772	4.437	4.201	4.025	3.889	3.780	3.690	3.552	3.408	3.258	3.165	3.100	2.967	2.898	2.862	2.826
17	8.399	6.112	5.185	4.669	4.335	4.101	3.926	3.791	3.682	3.593	3.455	3.311	3.161	3.067	3.003	2.869	2.799	2.763	2.727
18	8.285	6.012	5.091	4.579	4.247	4.014	3.840	3.705	3.597	3.508	3.370	3.227	3.077	2.983	2.918	2.784	2.713	2.677	2.641
19	8.184	5.925	5.010	4.500	4.170	3.938	3.765	3.630	3.522	3.433	3.296	3.153	3.003	2.908	2.844	2.709	2.638	2.602	2.565
20	8.096	5.848	4.938	4.430	4.102	3.871	3.698	3.564	3.456	3.368	3.231	3.088	2.937	2.843	2.778	2.643	2.571	2.535	2.498
21	8.016	5.780	4.874	4.368	4.042	3.811	3.639	3.505	3.398	3.309	3.173	3.030	2.879	2.785	2.720	2.583	2.512	2.475	2.437
22	7.945	5.719	4.816	4.313	3.988	3.758	3.586	3.453	3.345	3.257	3.120	2.977	2.827	2.732	2.667	2.530	2.458	2.421	2.383
23	7.881	5.663	4.764	4.263	3.939	3.710	3.539	3.405	3.298	3.210	3.074	2.931	2.780	2.685	2.620	2.482	2.410	2.373	2.335
24	7.822	5.613	4.718	4.218	3.895	3.666	3.495	3.362	3.256	3.168	3.031	2.888	2.738	2.643	2.577	2.439	2.366	2.329	2.290
25	7.769	5.568	4.675	4.177	3.855	3.627	3.456	3.323	3.217	3.129	2.993	2.850	2.699	2.604	2.538	2.399	2.326	2.288	2.250
30	7.562	5.390	4.509	4.017	3.699	3.473	3.304	3.172	3.066	2.979	2.843	2.700	2.548	2.452	2.386	2.245	2.169	2.130	2.090
35	7.419	5.267	4.395	3.908	3.591	3.367	3.200	3.068	2.963	2.875	2.740	2.597	2.444	2.348	2.280	2.137	2.060	2.020	1.978
40	7.314	5.178	4.312	3.828	3.513	3.291	3.123	2.993	2.887	2.800	2.664	2.521	2.368	2.271	2.203	2.058	1.979	1.938	1.895
50	7.170	5.056	4.199	3.719	3.407	3.186	3.020	2.890	2.785	2.698	2.562	2.419	2.265	2.166	2.097	1.949	1.867	1.824	1.779
75	6.985	4.899	4.054	3.580	3.271	3.052	2.887	2.758	2.653	2.566	2.431	2.287	2.131	2.031	1.960	1.806	1.720	1.673	1.624
100	6.895	4.823	3.983	3.512	3.205	2.987	2.823	2.694	2.589	2.503	2.367	2.223	2.066	1.965	1.893	1.735	1.646	1.597	1.545
150	6.806	4.749	3.914	3.446	3.141	2.924	2.760	2.631	2.527	2.441	2.305	2.160	2.002	1.900	1.827	1.664	1.571	1.520	1.464