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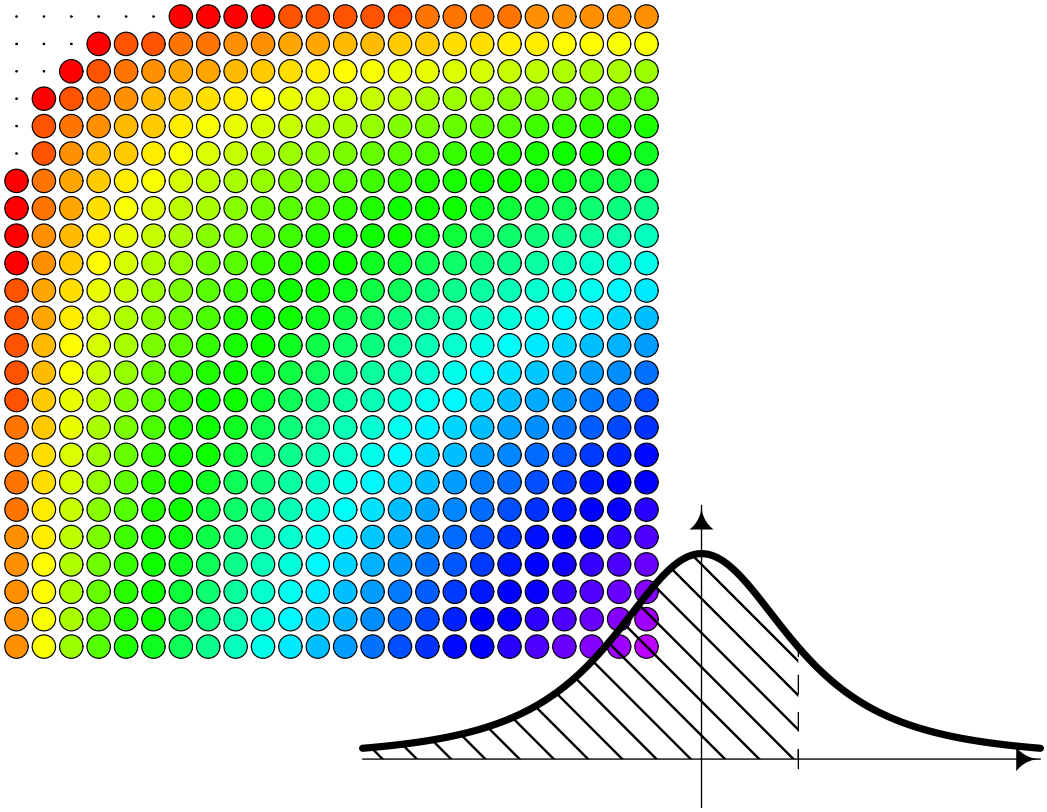
Statistical Tables



Contents

1 Binomial distribution

Cumulative distribution function for $\theta \leq 0.09$

This section tabulates the cumulative distribution function (c.d.f.) of the binomial distribution, i.e. the distribution of the number of successes in n independent trials of an experiment which leads to a success with probability θ. The c.d.f. is

$$F(x) = \mathbb{P}\{X \leq x\} = \sum_{k=0}^{x} \mathbb{P}\{X = k\} = \sum_{k=0}^{x} \binom{n}{k} \theta^k (1-\theta)^{n-k}.$$

The tables only cover $\theta \leq \frac{1}{2}$. For $\theta > \frac{1}{2}$, the rôles of successes and failures need to be reversed, i.e. if $X \sim \mathsf{Bi}(n, \theta)$, and $Y \sim \mathsf{Bi}(n, 1-\theta)$, then $\mathbb{P}\{X \leq x\} = 1 - \mathbb{P}\{Y \leq n - x - 1\}$.

		θ										
n	x	0.001	0.005	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
1	0	0.9990	0.9950	0.9900	0.9800	0.9700	0.9600	0.9500	0.9400	0.9300	0.9200	0.9100
	1	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	0	0.9980	0.9900	0.9801	0.9604	0.9409	0.9216	0.9025	0.8836	0.8649	0.8464	0.8281
	1	1.0000	1.0000	0.9999	0.9996	0.9991	0.9984	0.9975	0.9964	0.9951	0.9936	0.9919
	2	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
3	0	0.9970	0.9851	0.9703	0.9412	0.9127	0.8847	0.8574	0.8306	0.8044	0.7787	0.7536
	1	1.0000	0.9999	0.9997	0.9988	0.9974	0.9953	0.9928	0.9896	0.9860	0.9818	0.9772
	2	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9999	0.9998	0.9997	0.9995	0.9993
	3	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
4	0	0.9960	0.9801	0.9606	0.9224	0.8853	0.8493	0.8145	0.7807	0.7481	0.7164	0.6857
	1	1.0000	0.9999	0.9994	0.9977	0.9948	0.9909	0.9860	0.9801	0.9733	0.9656	0.9570
	2	1.0000	1.0000	1.0000	1.0000	0.9999	0.9998	0.9995	0.9992	0.9987	0.9981	0.9973
	3	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999
	4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
5	0	0.9950	0.9752	0.9510	0.9039	0.8587	0.8154	0.7738	0.7339	0.6957	0.6591	0.6240
	1	1.0000	0.9998	0.9990	0.9962	0.9915	0.9852	0.9774	0.9681	0.9575	0.9456	0.9326
	2	1.0000	1.0000	1.0000	0.9999	0.9997	0.9994	0.9988	0.9980	0.9969	0.9955	0.9937
	3	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9999	0.9998	0.9997
	4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
6	0	0.9940	0.9704	0.9415	0.8858	0.8330	0.7828	0.7351	0.6899	0.6470	0.6064	0.5679
	1	1.0000	0.9996	0.9985	0.9943	0.9875	0.9784	0.9672	0.9541	0.9392	0.9227	0.9048
	2	1.0000	1.0000	1.0000	0.9998	0.9995	0.9988	0.9978	0.9962	0.9942	0.9915	0.9882
	3	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9998	0.9997	0.9995	0.9992
	4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
7	0	0.9930	0.9655	0.9321	0.8681	0.8080	0.7514	0.6983	0.6485	0.6017	0.5578	0.5168
	1	1.0000	0.9995	0.9980	0.9921	0.9829	0.9706	0.9556	0.9382	0.9187	0.8974	0.8745
	2	1.0000	1.0000	1.0000	0.9997	0.9991	0.9980	0.9962	0.9937	0.9903	0.9860	0.9807
	3	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9998	0.9996	0.9993	0.9988	0.9982
	4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9999
	5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
8	0	0.9920	0.9607	0.9227	0.8508	0.7837	0.7214	0.6634	0.6096	0.5596	0.5132	0.4703
	1	1.0000	0.9993	0.9973	0.9897	0.9777	0.9619	0.9428	0.9208	0.8965	0.8702	0.8423
	2	1.0000	1.0000	0.9999	0.9996	0.9987	0.9969	0.9942	0.9904	0.9853	0.9789	0.9711
	3	1.0000	1.0000	1.0000	1.0000	0.9999	0.9998	0.9996	0.9993	0.9987	0.9978	0.9966
	4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9999	0.9997
	5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
9	0	0.9910	0.9559	0.9135	0.8337	0.7602	0.6925	0.6302	0.5730	0.5204	0.4722	0.4279
	1	1.0000	0.9991	0.9966	0.9869	0.9718	0.9522	0.9288	0.9022	0.8729	0.8417	0.8088
	2	1.0000	1.0000	0.9999	0.9994	0.9980	0.9955	0.9916	0.9862	0.9791	0.9702	0.9595
	3	1.0000	1.0000	1.0000	1.0000	0.9999	0.9997	0.9994	0.9987	0.9977	0.9963	0.9943
	4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9998	0.9997	0.9995
	5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
10	0	0.9900	0.9511	0.9044	0.8171	0.7374	0.6648	0.5987	0.5386	0.4840	0.4344	0.3894
	1	1.0000	0.9989	0.9957	0.9838	0.9655	0.9418	0.9139	0.8824	0.8483	0.8121	0.7746

→

n	x	0.001	0.005	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
10	2	1.0000	1.0000	0.9999	0.9991	0.9972	0.9938	0.9885	0.9812	0.9717	0.9599	0.9460
	3	1.0000	1.0000	1.0000	1.0000	0.9999	0.9996	0.9990	0.9980	0.9964	0.9942	0.9912
	4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9998	0.9997	0.9994	0.9990
	5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999
	6	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
11	0	0.9891	0.9464	0.8953	0.8007	0.7153	0.6382	0.5688	0.5063	0.4501	0.3996	0.3544
	1	0.9999	0.9987	0.9948	0.9805	0.9587	0.9308	0.8981	0.8618	0.8228	0.7819	0.7399
	2	1.0000	1.0000	0.9998	0.9988	0.9963	0.9917	0.9848	0.9752	0.9630	0.9481	0.9305
	3	1.0000	1.0000	1.0000	1.0000	0.9998	0.9993	0.9984	0.9970	0.9947	0.9915	0.9871
	4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9997	0.9995	0.9990	0.9983
	5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9998
	6	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
12	0	0.9881	0.9416	0.8864	0.7847	0.6938	0.6127	0.5404	0.4759	0.4186	0.3677	0.3225
	1	0.9999	0.9984	0.9938	0.9769	0.9514	0.9191	0.8816	0.8405	0.7967	0.7513	0.7052
	2	1.0000	1.0000	0.9998	0.9985	0.9952	0.9893	0.9804	0.9684	0.9532	0.9348	0.9134
	3	1.0000	1.0000	1.0000	0.9999	0.9997	0.9990	0.9978	0.9957	0.9925	0.9880	0.9820
	4	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9998	0.9996	0.9991	0.9984	0.9973
	5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9998	0.9997
	6	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
13	0	0.9871	0.9369	0.8775	0.7690	0.6730	0.5882	0.5133	0.4474	0.3893	0.3383	0.2935
	1	0.9999	0.9981	0.9928	0.9730	0.9436	0.9068	0.8646	0.8186	0.7702	0.7206	0.6707
	2	1.0000	1.0000	0.9997	0.9980	0.9938	0.9865	0.9755	0.9608	0.9422	0.9201	0.8946
	3	1.0000	1.0000	1.0000	0.9999	0.9995	0.9986	0.9969	0.9940	0.9897	0.9837	0.9758
	4	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9997	0.9993	0.9987	0.9976	0.9959
	5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9999	0.9997	0.9995
	6	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999
	7	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
14	0	0.9861	0.9322	0.8687	0.7536	0.6528	0.5647	0.4877	0.4205	0.3620	0.3112	0.2670
	1	0.9999	0.9978	0.9916	0.9690	0.9355	0.8941	0.8470	0.7963	0.7436	0.6900	0.6368
	2	1.0000	1.0000	0.9997	0.9975	0.9923	0.9833	0.9699	0.9522	0.9302	0.9042	0.8745
	3	1.0000	1.0000	1.0000	0.9999	0.9994	0.9981	0.9958	0.9920	0.9864	0.9786	0.9685
	4	1.0000	1.0000	1.0000	1.0000	1.0000	0.9998	0.9996	0.9990	0.9980	0.9965	0.9941
	5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9998	0.9996	0.9992
	6	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999
	7	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
15	0	0.9851	0.9276	0.8601	0.7386	0.6333	0.5421	0.4633	0.3953	0.3367	0.2863	0.2430
	1	0.9999	0.9975	0.9904	0.9647	0.9270	0.8809	0.8290	0.7738	0.7168	0.6597	0.6035
	2	1.0000	0.9999	0.9996	0.9970	0.9906	0.9797	0.9638	0.9429	0.9171	0.8870	0.8531
	3	1.0000	1.0000	1.0000	0.9998	0.9992	0.9976	0.9945	0.9896	0.9825	0.9727	0.9601
	4	1.0000	1.0000	1.0000	1.0000	0.9999	0.9998	0.9994	0.9986	0.9972	0.9950	0.9918
	5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9999	0.9997	0.9993	0.9987
	6	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9998
	7	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
16	0	0.9841	0.9229	0.8515	0.7238	0.6143	0.5204	0.4401	0.3716	0.3131	0.2634	0.2211
	1	0.9999	0.9971	0.9891	0.9601	0.9182	0.8673	0.8108	0.7511	0.6902	0.6299	0.5711
	2	1.0000	0.9999	0.9995	0.9963	0.9887	0.9758	0.9571	0.9327	0.9031	0.8689	0.8306
	3	1.0000	1.0000	1.0000	0.9998	0.9989	0.9968	0.9930	0.9868	0.9779	0.9658	0.9504
	4	1.0000	1.0000	1.0000	1.0000	0.9999	0.9997	0.9991	0.9981	0.9962	0.9932	0.9889
	5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9998	0.9995	0.9990	0.9981
	6	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9999	0.9997
	7	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
17	0	0.9831	0.9183	0.8429	0.7093	0.5958	0.4996	0.4181	0.3493	0.2912	0.2423	0.2012
	1	0.9999	0.9968	0.9877	0.9554	0.9091	0.8535	0.7922	0.7283	0.6638	0.6005	0.5396
	2	1.0000	0.9999	0.9994	0.9956	0.9866	0.9714	0.9497	0.9218	0.8882	0.8497	0.8073
	3	1.0000	1.0000	1.0000	0.9997	0.9986	0.9960	0.9912	0.9836	0.9727	0.9581	0.9397
	4	1.0000	1.0000	1.0000	1.0000	0.9999	0.9996	0.9988	0.9974	0.9949	0.9911	0.9855
	5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9997	0.9993	0.9985	0.9973
	6	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9998	0.9996
	7	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
18	0	0.9822	0.9137	0.8345	0.6951	0.5780	0.4796	0.3972	0.3283	0.2708	0.2229	0.1831

→

n	x	0.001	0.005	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
18	1	0.9998	0.9964	0.9862	0.9505	0.8997	0.8393	0.7735	0.7055	0.6378	0.5719	0.5091
	2	1.0000	0.9999	0.9993	0.9948	0.9843	0.9667	0.9419	0.9102	0.8725	0.8298	0.7832
	3	1.0000	1.0000	1.0000	0.9996	0.9982	0.9950	0.9891	0.9799	0.9667	0.9494	0.9277
	4	1.0000	1.0000	1.0000	1.0000	0.9998	0.9994	0.9985	0.9966	0.9933	0.9884	0.9814
	5	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9998	0.9995	0.9990	0.9979	0.9962
	6	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9997	0.9994
	7	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999
	8	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
19	0	0.9812	0.9092	0.8262	0.6812	0.5606	0.4604	0.3774	0.3086	0.2519	0.2051	0.1666
	1	0.9998	0.9960	0.9847	0.9454	0.8900	0.8249	0.7547	0.6829	0.6121	0.5440	0.4798
	2	1.0000	0.9999	0.9991	0.9939	0.9817	0.9616	0.9335	0.8979	0.8561	0.8092	0.7585
	3	1.0000	1.0000	1.0000	0.9995	0.9978	0.9939	0.9868	0.9757	0.9602	0.9398	0.9147
	4	1.0000	1.0000	1.0000	1.0000	0.9998	0.9993	0.9980	0.9956	0.9915	0.9853	0.9765
	5	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9998	0.9994	0.9986	0.9971	0.9949
	6	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9998	0.9996	0.9991
	7	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9999
	8	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
20	0	0.9802	0.9046	0.8179	0.6676	0.5438	0.4420	0.3585	0.2901	0.2342	0.1887	0.1516
	1	0.9998	0.9955	0.9831	0.9401	0.8802	0.8103	0.7358	0.6605	0.5869	0.5169	0.4516
	2	1.0000	0.9999	0.9990	0.9929	0.9790	0.9561	0.9245	0.8850	0.8390	0.7879	0.7334
	3	1.0000	1.0000	1.0000	0.9994	0.9973	0.9926	0.9841	0.9710	0.9529	0.9294	0.9007
	4	1.0000	1.0000	1.0000	1.0000	0.9997	0.9990	0.9974	0.9944	0.9893	0.9817	0.9710
	5	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9997	0.9991	0.9981	0.9962	0.9932
	6	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9997	0.9994	0.9987
	7	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9998
	8	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Cumulative distribution function for $0.1 \leq \theta \leq 0.5$

		θ										
n	x	0.1	0.125	0.15	0.2	0.25	0.3	0.3333	0.35	0.4	0.45	0.5
1	0	0.9000	0.8750	0.8500	0.8000	0.7500	0.7000	0.6667	0.6500	0.6000	0.5500	0.5000
	1	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	0	0.8100	0.7656	0.7225	0.6400	0.5625	0.4900	0.4444	0.4225	0.3600	0.3025	0.2500
	1	0.9900	0.9844	0.9775	0.9600	0.9375	0.9100	0.8889	0.8775	0.8400	0.7975	0.7500
	2	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
3	0	0.7290	0.6699	0.6141	0.5120	0.4219	0.3430	0.2963	0.2746	0.2160	0.1664	0.1250
	1	0.9720	0.9570	0.9392	0.8960	0.8438	0.7840	0.7407	0.7183	0.6480	0.5748	0.5000
	2	0.9990	0.9980	0.9966	0.9920	0.9844	0.9730	0.9630	0.9571	0.9360	0.9089	0.8750
	3	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
4	0	0.6561	0.5862	0.5220	0.4096	0.3164	0.2401	0.1975	0.1785	0.1296	0.0915	0.0625
	1	0.9477	0.9211	0.8905	0.8192	0.7383	0.6517	0.5926	0.5630	0.4752	0.3910	0.3125
	2	0.9963	0.9929	0.9880	0.9728	0.9492	0.9163	0.8889	0.8735	0.8208	0.7585	0.6875
	3	0.9999	0.9998	0.9995	0.9984	0.9961	0.9919	0.9877	0.9850	0.9744	0.9590	0.9375
	4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
5	0	0.5905	0.5129	0.4437	0.3277	0.2373	0.1681	0.1317	0.1160	0.0778	0.0503	0.0312
	1	0.9185	0.8793	0.8352	0.7373	0.6328	0.5282	0.4609	0.4284	0.3370	0.2562	0.1875
	2	0.9914	0.9839	0.9734	0.9421	0.8965	0.8369	0.7901	0.7648	0.6826	0.5931	0.5000
	3	0.9995	0.9989	0.9978	0.9933	0.9844	0.9692	0.9547	0.9460	0.9130	0.8688	0.8125
	4	1.0000	1.0000	0.9999	0.9997	0.9990	0.9976	0.9959	0.9947	0.9898	0.9815	0.9688
	5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
6	0	0.5314	0.4488	0.3771	0.2621	0.1780	0.1176	0.0878	0.0754	0.0467	0.0277	0.0156
	1	0.8857	0.8335	0.7765	0.6554	0.5339	0.4202	0.3512	0.3191	0.2333	0.1636	0.1094
	2	0.9842	0.9709	0.9527	0.9011	0.8306	0.7443	0.6804	0.6471	0.5443	0.4415	0.3437

→

n	x	0.1	0.125	0.15	0.2	0.25	0.3	0.3333	0.35	0.4	0.45	0.5
6	3	0.9987	0.9970	0.9941	0.9830	0.9624	0.9295	0.8999	0.8826	0.8208	0.7447	0.6562
	4	0.9999	0.9998	0.9996	0.9984	0.9954	0.9891	0.9822	0.9777	0.9590	0.9308	0.8906
	5	1.0000	1.0000	1.0000	0.9999	0.9998	0.9993	0.9986	0.9982	0.9959	0.9917	0.9844
	6	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
7	0	0.4783	0.3927	0.3206	0.2097	0.1335	0.0824	0.0585	0.0490	0.0280	0.0152	0.0078
	1	0.8503	0.7854	0.7166	0.5767	0.4449	0.3294	0.2634	0.2338	0.1586	0.1024	0.0625
	2	0.9743	0.9537	0.9262	0.8520	0.7564	0.6471	0.5706	0.5323	0.4199	0.3164	0.2266
	3	0.9973	0.9938	0.9879	0.9667	0.9294	0.8740	0.8267	0.8002	0.7102	0.6083	0.5000
	4	0.9998	0.9995	0.9988	0.9953	0.9871	0.9712	0.9547	0.9444	0.9037	0.8471	0.7734
	5	1.0000	1.0000	0.9999	0.9996	0.9987	0.9962	0.9931	0.9910	0.9812	0.9643	0.9375
	6	1.0000	1.0000	1.0000	1.0000	0.9999	0.9998	0.9995	0.9994	0.9984	0.9963	0.9922
	7	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
8	0	0.4305	0.3436	0.2725	0.1678	0.1001	0.0576	0.0390	0.0319	0.0168	0.0084	0.0039
	1	0.8131	0.7363	0.6572	0.5033	0.3671	0.2553	0.1951	0.1691	0.1064	0.0632	0.0352
	2	0.9619	0.9327	0.8948	0.7969	0.6785	0.5518	0.4682	0.4278	0.3154	0.2201	0.1445
	3	0.9950	0.9888	0.9786	0.9437	0.8862	0.8059	0.7414	0.7064	0.5941	0.4770	0.3633
	4	0.9996	0.9988	0.9971	0.9896	0.9727	0.9420	0.9121	0.8939	0.8263	0.7396	0.6367
	5	1.0000	0.9999	0.9998	0.9988	0.9958	0.9887	0.9803	0.9747	0.9502	0.9115	0.8555
	6	1.0000	1.0000	1.0000	0.9999	0.9996	0.9987	0.9974	0.9964	0.9915	0.9819	0.9648
	7	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9998	0.9998	0.9993	0.9983	0.9961
	8	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
9	0	0.3874	0.3007	0.2316	0.1342	0.0751	0.0404	0.0260	0.0207	0.0101	0.0046	0.0020
	1	0.7748	0.6872	0.5995	0.4362	0.3003	0.1960	0.1431	0.1211	0.0705	0.0385	0.0195
	2	0.9470	0.9081	0.8591	0.7382	0.6007	0.4628	0.3772	0.3373	0.2318	0.1495	0.0898
	3	0.9917	0.9817	0.9661	0.9144	0.8343	0.7297	0.6503	0.6089	0.4826	0.3614	0.2539
	4	0.9991	0.9975	0.9944	0.9804	0.9511	0.9012	0.8552	0.8283	0.7334	0.6214	0.5000
	5	0.9999	0.9998	0.9994	0.9969	0.9900	0.9747	0.9576	0.9464	0.9006	0.8342	0.7461
	6	1.0000	1.0000	1.0000	0.9997	0.9987	0.9957	0.9917	0.9888	0.9750	0.9502	0.9102
	7	1.0000	1.0000	1.0000	1.0000	0.9999	0.9996	0.9990	0.9986	0.9962	0.9909	0.9805
	8	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9999	0.9997	0.9992	0.9980
	9	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
10	0	0.3487	0.2631	0.1969	0.1074	0.0563	0.0282	0.0173	0.0135	0.0060	0.0025	0.0010
	1	0.7361	0.6389	0.5443	0.3758	0.2440	0.1493	0.1040	0.0860	0.0464	0.0233	0.0107
	2	0.9298	0.8805	0.8202	0.6778	0.5256	0.3828	0.2991	0.2616	0.1673	0.0996	0.0547
	3	0.9872	0.9725	0.9500	0.8791	0.7759	0.6496	0.5593	0.5138	0.3823	0.2660	0.1719
	4	0.9984	0.9955	0.9901	0.9672	0.9219	0.8497	0.7869	0.7515	0.6331	0.5044	0.3770
	5	0.9999	0.9995	0.9986	0.9936	0.9803	0.9527	0.9234	0.9051	0.8338	0.7384	0.6230
	6	1.0000	1.0000	0.9999	0.9991	0.9965	0.9894	0.9803	0.9740	0.9452	0.8980	0.8281
	7	1.0000	1.0000	1.0000	0.9999	0.9996	0.9984	0.9966	0.9952	0.9877	0.9726	0.9453
	8	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9996	0.9995	0.9983	0.9955	0.9893
	9	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9997	0.9990
	10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
11	0	0.3138	0.2302	0.1673	0.0859	0.0422	0.0198	0.0116	0.0088	0.0036	0.0014	0.0005
	1	0.6974	0.5919	0.4922	0.3221	0.1971	0.1130	0.0751	0.0606	0.0302	0.0139	0.0059
	2	0.9104	0.8503	0.7788	0.6174	0.4552	0.3127	0.2341	0.2001	0.1189	0.0652	0.0327
	3	0.9815	0.9610	0.9306	0.8389	0.7133	0.5696	0.4726	0.4256	0.2963	0.1911	0.1133
	4	0.9972	0.9927	0.9841	0.9496	0.8854	0.7897	0.7110	0.6683	0.5328	0.3971	0.2744
	5	0.9997	0.9990	0.9973	0.9883	0.9657	0.9218	0.8779	0.8513	0.7535	0.6331	0.5000
	6	1.0000	0.9999	0.9997	0.9980	0.9924	0.9784	0.9614	0.9499	0.9006	0.8262	0.7256
	7	1.0000	1.0000	1.0000	0.9998	0.9988	0.9957	0.9912	0.9878	0.9707	0.9390	0.8867
	8	1.0000	1.0000	1.0000	1.0000	0.9999	0.9994	0.9986	0.9980	0.9941	0.9852	0.9673
	9	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9998	0.9993	0.9978	0.9941
	10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9998	0.9995
	11	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
12	0	0.2824	0.2014	0.1422	0.0687	0.0317	0.0138	0.0077	0.0057	0.0022	0.0008	0.0002
	1	0.6590	0.5467	0.4435	0.2749	0.1584	0.0850	0.0540	0.0424	0.0196	0.0083	0.0032
	2	0.8891	0.8180	0.7358	0.5583	0.3907	0.2528	0.1811	0.1513	0.0834	0.0421	0.0193
	3	0.9744	0.9472	0.9078	0.7946	0.6488	0.4925	0.3931	0.3467	0.2253	0.1345	0.0730
	4	0.9957	0.9887	0.9761	0.9274	0.8424	0.7237	0.6315	0.5833	0.4382	0.3044	0.1938
	5	0.9995	0.9982	0.9954	0.9806	0.9456	0.8822	0.8223	0.7873	0.6652	0.5269	0.3872
	6	0.9999	0.9998	0.9993	0.9961	0.9857	0.9614	0.9336	0.9154	0.8418	0.7393	0.6128

→

n	x	0.1	0.125	0.15	0.2	0.25	0.3	0.3333	0.35	0.4	0.45	0.5
12	7	1.0000	1.0000	0.9999	0.9994	0.9972	0.9905	0.9812	0.9745	0.9427	0.8883	0.8062
	8	1.0000	1.0000	1.0000	0.9999	0.9996	0.9983	0.9961	0.9944	0.9847	0.9644	0.9270
	9	1.0000	1.0000	1.0000	1.0000	1.0000	0.9998	0.9995	0.9992	0.9972	0.9921	0.9807
	10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9997	0.9989	0.9968
	11	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9998
	12	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
13	0	0.2542	0.1762	0.1209	0.0550	0.0238	0.0097	0.0051	0.0037	0.0013	0.0004	0.0001
	1	0.6213	0.5035	0.3983	0.2336	0.1267	0.0637	0.0385	0.0296	0.0126	0.0049	0.0017
	2	0.8661	0.7841	0.6920	0.5017	0.3326	0.2025	0.1387	0.1132	0.0579	0.0269	0.0112
	3	0.9658	0.9310	0.8820	0.7473	0.5843	0.4206	0.3224	0.2783	0.1686	0.0929	0.0461
	4	0.9935	0.9835	0.9658	0.9009	0.7940	0.6543	0.5520	0.5005	0.3530	0.2279	0.1334
	5	0.9991	0.9970	0.9925	0.9700	0.9198	0.8346	0.7587	0.7159	0.5744	0.4268	0.2905
	6	0.9999	0.9996	0.9987	0.9930	0.9757	0.9376	0.8965	0.8705	0.7712	0.6437	0.5000
	7	1.0000	1.0000	0.9998	0.9988	0.9944	0.9818	0.9653	0.9538	0.9023	0.8212	0.7095
	8	1.0000	1.0000	1.0000	0.9998	0.9990	0.9960	0.9912	0.9874	0.9679	0.9302	0.8666
	9	1.0000	1.0000	1.0000	1.0000	0.9999	0.9993	0.9984	0.9975	0.9922	0.9797	0.9539
	10	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9998	0.9997	0.9987	0.9959	0.9888
	11	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9995	0.9983
	12	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999
	13	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
14	0	0.2288	0.1542	0.1028	0.0440	0.0178	0.0068	0.0034	0.0024	0.0008	0.0002	0.0001
	1	0.5846	0.4626	0.3567	0.1979	0.1010	0.0475	0.0274	0.0205	0.0081	0.0029	0.0009
	2	0.8416	0.7490	0.6479	0.4481	0.2811	0.1608	0.1053	0.0839	0.0398	0.0170	0.0065
	3	0.9559	0.9127	0.8535	0.6982	0.5213	0.3552	0.2612	0.2205	0.1243	0.0632	0.0287
	4	0.9908	0.9770	0.9533	0.8702	0.7415	0.5842	0.4755	0.4227	0.2793	0.1672	0.0898
	5	0.9985	0.9953	0.9885	0.9561	0.8883	0.7805	0.6898	0.6405	0.4859	0.3373	0.2120
	6	0.9998	0.9993	0.9978	0.9884	0.9617	0.9067	0.8505	0.8164	0.6925	0.5461	0.3953
	7	1.0000	0.9999	0.9997	0.9976	0.9897	0.9685	0.9424	0.9247	0.8499	0.7414	0.6047
	8	1.0000	1.0000	1.0000	0.9996	0.9978	0.9917	0.9826	0.9757	0.9417	0.8811	0.7880
	9	1.0000	1.0000	1.0000	1.0000	0.9997	0.9983	0.9960	0.9940	0.9825	0.9574	0.9102
	10	1.0000	1.0000	1.0000	1.0000	1.0000	0.9998	0.9993	0.9989	0.9961	0.9886	0.9713
	11	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9999	0.9994	0.9978	0.9935
	12	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9997	0.9991
	13	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999
	14	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
15	0	0.2059	0.1349	0.0874	0.0352	0.0134	0.0047	0.0023	0.0016	0.0005	0.0001	0.0000
	1	0.5490	0.4241	0.3186	0.1671	0.0802	0.0353	0.0194	0.0142	0.0052	0.0017	0.0005
	2	0.8159	0.7132	0.6042	0.3980	0.2361	0.1268	0.0794	0.0617	0.0271	0.0107	0.0037
	3	0.9444	0.8922	0.8227	0.6482	0.4613	0.2969	0.2092	0.1727	0.0905	0.0424	0.0176
	4	0.9873	0.9689	0.9383	0.8358	0.6865	0.5155	0.4041	0.3519	0.2173	0.1204	0.0592
	5	0.9978	0.9930	0.9832	0.9389	0.8516	0.7216	0.6184	0.5643	0.4032	0.2608	0.1509
	6	0.9997	0.9988	0.9964	0.9819	0.9434	0.8689	0.7970	0.7548	0.6098	0.4522	0.3036
	7	1.0000	0.9998	0.9994	0.9958	0.9827	0.9500	0.9118	0.8868	0.7869	0.6535	0.5000
	8	1.0000	1.0000	0.9999	0.9992	0.9958	0.9848	0.9692	0.9578	0.9050	0.8182	0.6964
	9	1.0000	1.0000	1.0000	0.9999	0.9992	0.9963	0.9915	0.9876	0.9662	0.9231	0.8491
	10	1.0000	1.0000	1.0000	1.0000	0.9999	0.9993	0.9982	0.9972	0.9907	0.9745	0.9408
	11	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9997	0.9995	0.9981	0.9937	0.9824
	12	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9997	0.9989	0.9963
	13	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9995
	14	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
16	0	0.1853	0.1181	0.0743	0.0281	0.0100	0.0033	0.0015	0.0010	0.0003	0.0001	0.0000
	1	0.5147	0.3879	0.2839	0.1407	0.0635	0.0261	0.0137	0.0098	0.0033	0.0010	0.0003
	2	0.7892	0.6771	0.5614	0.3518	0.1971	0.0994	0.0594	0.0451	0.0183	0.0066	0.0021
	3	0.9316	0.8698	0.7899	0.5981	0.4050	0.2459	0.1659	0.1339	0.0651	0.0281	0.0106
	4	0.9830	0.9593	0.9209	0.7982	0.6302	0.4499	0.3391	0.2892	0.1666	0.0853	0.0384
	5	0.9967	0.9900	0.9765	0.9183	0.8103	0.6598	0.5469	0.4900	0.3288	0.1976	0.1051
	6	0.9995	0.9981	0.9944	0.9733	0.9204	0.8247	0.7374	0.6881	0.5272	0.3660	0.2272
	7	0.9999	0.9997	0.9989	0.9930	0.9729	0.9256	0.8735	0.8406	0.7161	0.5629	0.4018
	8	1.0000	1.0000	0.9998	0.9985	0.9925	0.9743	0.9500	0.9329	0.8577	0.7441	0.5982
	9	1.0000	1.0000	1.0000	0.9998	0.9984	0.9929	0.9841	0.9771	0.9417	0.8759	0.7728

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n	x	0.1	0.125	0.15	0.2	0.25	0.3	0.3333	0.35	0.4	0.45	0.5
16	10	1.0000	1.0000	1.0000	1.0000	0.9997	0.9984	0.9960	0.9938	0.9809	0.9514	0.8949
	11	1.0000	1.0000	1.0000	1.0000	1.0000	0.9997	0.9992	0.9987	0.9951	0.9851	0.9616
	12	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9998	0.9991	0.9965	0.9894
	13	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9994	0.9979
	14	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9997
	15	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
17	0	0.1668	0.1033	0.0631	0.0225	0.0075	0.0023	0.0010	0.0007	0.0002	0.0000	0.0000
	1	0.4818	0.3542	0.2525	0.1182	0.0501	0.0193	0.0096	0.0067	0.0021	0.0006	0.0001
	2	0.7618	0.6409	0.5198	0.3096	0.1637	0.0774	0.0442	0.0327	0.0123	0.0041	0.0012
	3	0.9174	0.8457	0.7556	0.5489	0.3530	0.2019	0.1304	0.1028	0.0464	0.0184	0.0064
	4	0.9779	0.9482	0.9013	0.7582	0.5739	0.3887	0.2814	0.2348	0.1260	0.0596	0.0245
	5	0.9953	0.9862	0.9681	0.8943	0.7653	0.5968	0.4777	0.4197	0.2639	0.1471	0.0717
	6	0.9992	0.9971	0.9917	0.9623	0.8929	0.7752	0.6739	0.6188	0.4478	0.2902	0.1662
	7	0.9999	0.9995	0.9983	0.9891	0.9598	0.8954	0.8281	0.7872	0.6405	0.4743	0.3145
	8	1.0000	0.9999	0.9997	0.9974	0.9876	0.9597	0.9245	0.9006	0.8011	0.6626	0.5000
	9	1.0000	1.0000	1.0000	0.9995	0.9969	0.9873	0.9727	0.9617	0.9081	0.8166	0.6855
	10	1.0000	1.0000	1.0000	0.9999	0.9994	0.9968	0.9920	0.9880	0.9652	0.9174	0.8338
	11	1.0000	1.0000	1.0000	1.0000	0.9999	0.9993	0.9981	0.9970	0.9894	0.9699	0.9283
	12	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9997	0.9994	0.9975	0.9914	0.9755
	13	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9995	0.9981	0.9936
	14	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9997	0.9988
	15	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999
	16	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
18	0	0.1501	0.0904	0.0536	0.0180	0.0056	0.0016	0.0007	0.0004	0.0001	0.0000	0.0000
	1	0.4503	0.3228	0.2241	0.0991	0.0395	0.0142	0.0068	0.0046	0.0013	0.0003	0.0001
	2	0.7338	0.6051	0.4797	0.2713	0.1353	0.0600	0.0326	0.0236	0.0082	0.0025	0.0007
	3	0.9018	0.8201	0.7202	0.5010	0.3057	0.1646	0.1017	0.0783	0.0328	0.0120	0.0038
	4	0.9718	0.9354	0.8794	0.7164	0.5187	0.3327	0.2311	0.1886	0.0942	0.0411	0.0154
	5	0.9936	0.9814	0.9581	0.8671	0.7175	0.5344	0.4122	0.3550	0.2088	0.1077	0.0481
	6	0.9988	0.9957	0.9882	0.9487	0.8610	0.7217	0.6085	0.5491	0.3743	0.2258	0.1189
	7	0.9998	0.9992	0.9973	0.9837	0.9431	0.8593	0.7767	0.7283	0.5634	0.3915	0.2403
	8	1.0000	0.9999	0.9995	0.9957	0.9807	0.9404	0.8924	0.8609	0.7368	0.5778	0.4073
	9	1.0000	1.0000	0.9999	0.9991	0.9946	0.9790	0.9567	0.9403	0.8653	0.7473	0.5927
	10	1.0000	1.0000	1.0000	0.9998	0.9988	0.9939	0.9856	0.9788	0.9424	0.8720	0.7597
	11	1.0000	1.0000	1.0000	1.0000	0.9998	0.9986	0.9961	0.9938	0.9797	0.9463	0.8811
	12	1.0000	1.0000	1.0000	1.0000	1.0000	0.9997	0.9991	0.9986	0.9942	0.9817	0.9519
	13	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9997	0.9987	0.9951	0.9846
	14	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9998	0.9990	0.9962
	15	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9993
	16	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999
	17	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
19	0	0.1351	0.0791	0.0456	0.0144	0.0042	0.0011	0.0005	0.0003	0.0001	0.0000	0.0000
	1	0.4203	0.2938	0.1985	0.0829	0.0310	0.0104	0.0047	0.0031	0.0008	0.0002	0.0000
	2	0.7054	0.5698	0.4413	0.2369	0.1113	0.0462	0.0240	0.0170	0.0055	0.0015	0.0004
	3	0.8850	0.7933	0.6841	0.4551	0.2631	0.1332	0.0787	0.0591	0.0230	0.0077	0.0022
	4	0.9648	0.9209	0.8556	0.6733	0.4654	0.2822	0.1879	0.1500	0.0696	0.0280	0.0096
	5	0.9914	0.9757	0.9463	0.8369	0.6678	0.4739	0.3519	0.2968	0.1629	0.0777	0.0318
	6	0.9983	0.9939	0.9837	0.9324	0.8251	0.6655	0.5431	0.4812	0.3081	0.1727	0.0835
	7	0.9997	0.9988	0.9959	0.9767	0.9225	0.8180	0.7207	0.6656	0.4878	0.3169	0.1796
	8	1.0000	0.9998	0.9992	0.9933	0.9713	0.9161	0.8538	0.8145	0.6675	0.4940	0.3238
	9	1.0000	1.0000	0.9999	0.9984	0.9911	0.9674	0.9352	0.9125	0.8139	0.6710	0.5000
	10	1.0000	1.0000	1.0000	0.9997	0.9977	0.9895	0.9759	0.9653	0.9115	0.8159	0.6762
	11	1.0000	1.0000	1.0000	1.0000	0.9995	0.9972	0.9926	0.9886	0.9648	0.9129	0.8204
	12	1.0000	1.0000	1.0000	1.0000	0.9999	0.9994	0.9981	0.9969	0.9884	0.9658	0.9165
	13	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9996	0.9993	0.9969	0.9891	0.9682
	14	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9999	0.9994	0.9972	0.9904
	15	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9995	0.9978
	16	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9996
	17	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
20	0	0.1216	0.0692	0.0388	0.0115	0.0032	0.0008	0.0003	0.0002	0.0000	0.0000	0.0000
	1	0.3917	0.2669	0.1756	0.0692	0.0243	0.0076	0.0033	0.0021	0.0005	0.0001	0.0000

→

n	x	0.1	0.125	0.15	0.2	0.25	0.3	0.3333	0.35	0.4	0.45	0.5
20	2	0.6769	0.5353	0.4049	0.2061	0.0913	0.0355	0.0176	0.0121	0.0036	0.0009	0.0002
	3	0.8670	0.7653	0.6477	0.4114	0.2252	0.1071	0.0604	0.0444	0.0160	0.0049	0.0013
	4	0.9568	0.9050	0.8298	0.6296	0.4148	0.2375	0.1515	0.1182	0.0510	0.0189	0.0059
	5	0.9887	0.9688	0.9327	0.8042	0.6172	0.4164	0.2972	0.2454	0.1256	0.0553	0.0207
	6	0.9976	0.9916	0.9781	0.9133	0.7858	0.6080	0.4793	0.4166	0.2500	0.1299	0.0577
	7	0.9996	0.9981	0.9941	0.9679	0.8982	0.7723	0.6615	0.6010	0.4159	0.2520	0.1316
	8	0.9999	0.9997	0.9987	0.9900	0.9591	0.8867	0.8095	0.7624	0.5956	0.4143	0.2517
	9	1.0000	0.9999	0.9998	0.9974	0.9861	0.9520	0.9081	0.8782	0.7553	0.5914	0.4119
	10	1.0000	1.0000	1.0000	0.9994	0.9961	0.9829	0.9624	0.9468	0.8725	0.7507	0.5881
	11	1.0000	1.0000	1.0000	0.9999	0.9991	0.9949	0.9870	0.9804	0.9435	0.8692	0.7483
	12	1.0000	1.0000	1.0000	1.0000	0.9998	0.9987	0.9963	0.9940	0.9790	0.9420	0.8684
	13	1.0000	1.0000	1.0000	1.0000	1.0000	0.9997	0.9991	0.9985	0.9935	0.9786	0.9423
	14	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9998	0.9997	0.9984	0.9936	0.9793
	15	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9997	0.9985	0.9941
	16	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9997	0.9987
	17	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9998
	18	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

2 Poisson distribution

Cumulative distribution function

This section tabulates the cumulative distribution function (c.d.f.) of the Poisson distribution with expected value ("rate") λ, which is

$$F(x) = \mathbb{P}\{X \leq x\} = \sum_{k=0}^{x} \mathbb{P}\{X = k\} = \sum_{k=0}^{x} \exp(-\lambda)\frac{\lambda^k}{k!}.$$

	λ												
x	0.02	0.04	0.06	0.08	0.1	0.15	0.2	0.25	0.3	0.35	0.4	0.45	0.5
0	0.9802	0.9608	0.9418	0.9231	0.9048	0.8607	0.8187	0.7788	0.7408	0.7047	0.6703	0.6376	0.6065
1	0.9998	0.9992	0.9983	0.9970	0.9953	0.9898	0.9825	0.9735	0.9631	0.9513	0.9384	0.9246	0.9098
2	1.0000	1.0000	1.0000	0.9999	0.9998	0.9995	0.9989	0.9978	0.9964	0.9945	0.9921	0.9891	0.9856
3	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9999	0.9997	0.9995	0.9992	0.9988	0.9982
4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9999	0.9998
5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

	λ												
x	0.55	0.6	0.65	0.7	0.75	0.8	0.85	0.9	0.95	1	1.1	1.2	1.3
0	0.5769	0.5488	0.5220	0.4966	0.4724	0.4493	0.4274	0.4066	0.3867	0.3679	0.3329	0.3012	0.2725
1	0.8943	0.8781	0.8614	0.8442	0.8266	0.8088	0.7907	0.7725	0.7541	0.7358	0.6990	0.6626	0.6268
2	0.9815	0.9769	0.9717	0.9659	0.9595	0.9526	0.9451	0.9371	0.9287	0.9197	0.9004	0.8795	0.8571
3	0.9975	0.9966	0.9956	0.9942	0.9927	0.9909	0.9889	0.9865	0.9839	0.9810	0.9743	0.9662	0.9569
4	0.9997	0.9996	0.9994	0.9992	0.9989	0.9986	0.9982	0.9977	0.9971	0.9963	0.9946	0.9923	0.9893
5	1.0000	1.0000	0.9999	0.9999	0.9999	0.9998	0.9997	0.9997	0.9995	0.9994	0.9990	0.9985	0.9978
6	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9999	0.9999	0.9997	0.9996
7	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999
8	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

	λ												
x	1.4	1.5	1.6	1.7	1.8	1.9	2	2.2	2.4	2.6	2.8	3	3.2
0	0.2466	0.2231	0.2019	0.1827	0.1653	0.1496	0.1353	0.1108	0.0907	0.0743	0.0608	0.0498	0.0408
1	0.5918	0.5578	0.5249	0.4932	0.4628	0.4337	0.4060	0.3546	0.3084	0.2674	0.2311	0.1991	0.1712
2	0.8335	0.8088	0.7834	0.7572	0.7306	0.7037	0.6767	0.6227	0.5697	0.5184	0.4695	0.4232	0.3799
3	0.9463	0.9344	0.9212	0.9068	0.8913	0.8747	0.8571	0.8194	0.7787	0.7360	0.6919	0.6472	0.6025
4	0.9857	0.9814	0.9763	0.9704	0.9636	0.9559	0.9473	0.9275	0.9041	0.8774	0.8477	0.8153	0.7806
5	0.9968	0.9955	0.9940	0.9920	0.9896	0.9868	0.9834	0.9751	0.9643	0.9510	0.9349	0.9161	0.8946
6	0.9994	0.9991	0.9987	0.9981	0.9974	0.9966	0.9955	0.9925	0.9884	0.9828	0.9756	0.9665	0.9554
7	0.9999	0.9998	0.9997	0.9996	0.9994	0.9992	0.9989	0.9980	0.9967	0.9947	0.9919	0.9881	0.9832
8	1.0000	1.0000	1.0000	0.9999	0.9999	0.9998	0.9998	0.9995	0.9991	0.9985	0.9976	0.9962	0.9943
9	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9998	0.9996	0.9993	0.9989	0.9982
10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9998	0.9997	0.9995
11	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9999
12	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

	λ												
x	3.4	3.6	3.8	4	4.2	4.4	4.6	4.8	5	5.2	5.4	5.6	5.8
0	0.0334	0.0273	0.0224	0.0183	0.0150	0.0123	0.0101	0.0082	0.0067	0.0055	0.0045	0.0037	0.0030
1	0.1468	0.1257	0.1074	0.0916	0.0780	0.0663	0.0563	0.0477	0.0404	0.0342	0.0289	0.0244	0.0206
2	0.3397	0.3027	0.2689	0.2381	0.2102	0.1851	0.1626	0.1425	0.1247	0.1088	0.0948	0.0824	0.0715
3	0.5584	0.5152	0.4735	0.4335	0.3954	0.3594	0.3257	0.2942	0.2650	0.2381	0.2133	0.1906	0.1700
4	0.7442	0.7064	0.6678	0.6288	0.5898	0.5512	0.5132	0.4763	0.4405	0.4061	0.3733	0.3422	0.3127
5	0.8705	0.8441	0.8156	0.7851	0.7531	0.7199	0.6858	0.6510	0.6160	0.5809	0.5461	0.5119	0.4783
6	0.9421	0.9267	0.9091	0.8893	0.8675	0.8436	0.8180	0.7908	0.7622	0.7324	0.7017	0.6703	0.6384
7	0.9769	0.9692	0.9599	0.9489	0.9361	0.9214	0.9049	0.8867	0.8666	0.8449	0.8217	0.7970	0.7710

→

x	3.4	3.6	3.8	4	4.2	4.4	4.6	4.8	5	5.2	5.4	5.6	5.8
8	0.9917	0.9883	0.9840	0.9786	0.9721	0.9642	0.9549	0.9442	0.9319	0.9181	0.9027	0.8857	0.8672
9	0.9973	0.9960	0.9942	0.9919	0.9889	0.9851	0.9805	0.9749	0.9682	0.9603	0.9512	0.9409	0.9292
10	0.9992	0.9987	0.9981	0.9972	0.9959	0.9943	0.9922	0.9896	0.9863	0.9823	0.9775	0.9718	0.9651
11	0.9998	0.9996	0.9994	0.9991	0.9986	0.9980	0.9971	0.9960	0.9945	0.9927	0.9904	0.9875	0.9841
12	0.9999	0.9999	0.9998	0.9997	0.9996	0.9993	0.9990	0.9986	0.9980	0.9972	0.9962	0.9949	0.9932
13	1.0000	1.0000	1.0000	0.9999	0.9999	0.9998	0.9997	0.9995	0.9993	0.9990	0.9986	0.9980	0.9973
14	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9999	0.9999	0.9998	0.9997	0.9995	0.9993	0.9990
15	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9999	0.9998	0.9998	0.9996
16	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9999	0.9999
17	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

	λ												
x	6	6.2	6.4	6.6	6.8	7	7.2	7.4	7.6	7.8	8	8.5	9
0	0.0025	0.0020	0.0017	0.0014	0.0011	0.0009	0.0007	0.0006	0.0005	0.0004	0.0003	0.0002	0.0001
1	0.0174	0.0146	0.0123	0.0103	0.0087	0.0073	0.0061	0.0051	0.0043	0.0036	0.0030	0.0019	0.0012
2	0.0620	0.0536	0.0463	0.0400	0.0344	0.0296	0.0255	0.0219	0.0188	0.0161	0.0138	0.0093	0.0062
3	0.1512	0.1342	0.1189	0.1052	0.0928	0.0818	0.0719	0.0632	0.0554	0.0485	0.0424	0.0301	0.0212
4	0.2851	0.2592	0.2351	0.2127	0.1920	0.1730	0.1555	0.1395	0.1249	0.1117	0.0996	0.0744	0.0550
5	0.4457	0.4141	0.3837	0.3547	0.3270	0.3007	0.2759	0.2526	0.2307	0.2103	0.1912	0.1496	0.1157
6	0.6063	0.5742	0.5423	0.5108	0.4799	0.4497	0.4204	0.3920	0.3646	0.3384	0.3134	0.2562	0.2068
7	0.7440	0.7160	0.6873	0.6581	0.6285	0.5987	0.5689	0.5393	0.5100	0.4812	0.4530	0.3856	0.3239
8	0.8472	0.8259	0.8033	0.7796	0.7548	0.7291	0.7027	0.6757	0.6482	0.6204	0.5925	0.5231	0.4557
9	0.9161	0.9016	0.8858	0.8686	0.8502	0.8305	0.8096	0.7877	0.7649	0.7411	0.7166	0.6530	0.5874
10	0.9574	0.9486	0.9386	0.9274	0.9151	0.9015	0.8867	0.8707	0.8535	0.8352	0.8159	0.7634	0.7060
11	0.9799	0.9750	0.9693	0.9627	0.9552	0.9467	0.9371	0.9265	0.9148	0.9020	0.8881	0.8487	0.8030
12	0.9912	0.9887	0.9857	0.9821	0.9779	0.9730	0.9673	0.9609	0.9536	0.9454	0.9362	0.9091	0.8758
13	0.9964	0.9952	0.9937	0.9920	0.9898	0.9872	0.9841	0.9805	0.9762	0.9714	0.9658	0.9486	0.9261
14	0.9986	0.9981	0.9974	0.9966	0.9956	0.9943	0.9927	0.9908	0.9886	0.9859	0.9827	0.9726	0.9585
15	0.9995	0.9993	0.9990	0.9986	0.9982	0.9976	0.9969	0.9959	0.9948	0.9934	0.9918	0.9862	0.9780
16	0.9998	0.9997	0.9996	0.9995	0.9993	0.9990	0.9987	0.9983	0.9978	0.9971	0.9963	0.9934	0.9889
17	0.9999	0.9999	0.9999	0.9998	0.9997	0.9996	0.9995	0.9993	0.9991	0.9988	0.9984	0.9970	0.9947
18	1.0000	1.0000	1.0000	0.9999	0.9999	0.9999	0.9998	0.9997	0.9996	0.9995	0.9993	0.9987	0.9976
19	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9999	0.9999	0.9998	0.9997	0.9995	0.9989
20	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9999	0.9998	0.9996
21	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9998
22	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999
23	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

	λ												
x	9.5	10	10.5	11	11.5	12	12.5	13	13.5	14	14.5	15	15.5
0	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
1	0.0008	0.0005	0.0003	0.0002	0.0001	0.0001	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	0.0042	0.0028	0.0018	0.0012	0.0008	0.0005	0.0003	0.0002	0.0001	0.0001	0.0001	0.0000	0.0000
3	0.0149	0.0103	0.0071	0.0049	0.0034	0.0023	0.0016	0.0011	0.0007	0.0005	0.0003	0.0002	0.0001
4	0.0403	0.0293	0.0211	0.0151	0.0107	0.0076	0.0053	0.0037	0.0026	0.0018	0.0012	0.0009	0.0006
5	0.0885	0.0671	0.0504	0.0375	0.0277	0.0203	0.0148	0.0107	0.0077	0.0055	0.0039	0.0028	0.0020
6	0.1649	0.1301	0.1016	0.0786	0.0603	0.0458	0.0346	0.0259	0.0193	0.0142	0.0105	0.0076	0.0055
7	0.2687	0.2202	0.1785	0.1432	0.1137	0.0895	0.0698	0.0540	0.0415	0.0316	0.0239	0.0180	0.0135
8	0.3918	0.3328	0.2794	0.2320	0.1906	0.1550	0.1249	0.0998	0.0790	0.0621	0.0484	0.0374	0.0288
9	0.5218	0.4579	0.3971	0.3405	0.2888	0.2424	0.2014	0.1658	0.1353	0.1094	0.0878	0.0699	0.0552
10	0.6453	0.5830	0.5207	0.4599	0.4017	0.3472	0.2971	0.2517	0.2112	0.1757	0.1449	0.1185	0.0961
11	0.7520	0.6968	0.6387	0.5793	0.5198	0.4616	0.4058	0.3532	0.3045	0.2600	0.2201	0.1848	0.1538
12	0.8364	0.7916	0.7420	0.6887	0.6329	0.5760	0.5190	0.4631	0.4093	0.3585	0.3111	0.2676	0.2283
13	0.8981	0.8645	0.8253	0.7813	0.7330	0.6815	0.6278	0.5730	0.5182	0.4644	0.4125	0.3632	0.3171
14	0.9400	0.9165	0.8879	0.8540	0.8153	0.7720	0.7250	0.6751	0.6233	0.5704	0.5176	0.4657	0.4154
15	0.9665	0.9513	0.9317	0.9074	0.8783	0.8444	0.8060	0.7636	0.7178	0.6694	0.6192	0.5681	0.5170
16	0.9823	0.9730	0.9604	0.9441	0.9236	0.8987	0.8693	0.8355	0.7975	0.7559	0.7112	0.6641	0.6154
17	0.9911	0.9857	0.9781	0.9678	0.9542	0.9370	0.9158	0.8905	0.8609	0.8272	0.7897	0.7489	0.7052
18	0.9957	0.9928	0.9885	0.9823	0.9738	0.9626	0.9481	0.9302	0.9084	0.8826	0.8530	0.8195	0.7825

→

x	9.5	10	10.5	11	11.5	12	12.5	13	13.5	14	14.5	15	15.5
19	0.9980	0.9965	0.9942	0.9907	0.9857	0.9787	0.9694	0.9573	0.9421	0.9235	0.9012	0.8752	0.8455
20	0.9991	0.9984	0.9972	0.9953	0.9925	0.9884	0.9827	0.9750	0.9649	0.9521	0.9362	0.9170	0.8944
21	0.9996	0.9993	0.9987	0.9977	0.9962	0.9939	0.9906	0.9859	0.9796	0.9712	0.9604	0.9469	0.9304
22	0.9999	0.9997	0.9994	0.9990	0.9982	0.9970	0.9951	0.9924	0.9885	0.9833	0.9763	0.9673	0.9558
23	0.9999	0.9999	0.9998	0.9995	0.9992	0.9985	0.9975	0.9960	0.9938	0.9907	0.9863	0.9805	0.9730
24	1.0000	1.0000	0.9999	0.9998	0.9996	0.9993	0.9988	0.9980	0.9968	0.9950	0.9924	0.9888	0.9840
25	1.0000	1.0000	1.0000	0.9999	0.9998	0.9997	0.9994	0.9990	0.9984	0.9974	0.9959	0.9938	0.9909
26	1.0000	1.0000	1.0000	1.0000	0.9999	0.9999	0.9997	0.9995	0.9992	0.9987	0.9979	0.9967	0.9950
27	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9999	0.9998	0.9996	0.9994	0.9989	0.9983	0.9973
28	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9998	0.9997	0.9995	0.9991	0.9986
29	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9999	0.9998	0.9996	0.9993
30	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9999	0.9998	0.9997
31	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9998
32	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999
33	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

	λ												
x	16	17	18	19	20	21	22	23	24	25	30	35	40
2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
4	0.0004	0.0002	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5	0.0014	0.0007	0.0003	0.0002	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6	0.0040	0.0021	0.0010	0.0005	0.0003	0.0001	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
7	0.0100	0.0054	0.0029	0.0015	0.0008	0.0004	0.0002	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000
8	0.0220	0.0126	0.0071	0.0039	0.0021	0.0011	0.0006	0.0003	0.0002	0.0001	0.0000	0.0000	0.0000
9	0.0433	0.0261	0.0154	0.0089	0.0050	0.0028	0.0015	0.0008	0.0004	0.0002	0.0000	0.0000	0.0000
10	0.0774	0.0491	0.0304	0.0183	0.0108	0.0063	0.0035	0.0020	0.0011	0.0006	0.0000	0.0000	0.0000
11	0.1270	0.0847	0.0549	0.0347	0.0214	0.0129	0.0076	0.0044	0.0025	0.0014	0.0001	0.0000	0.0000
12	0.1931	0.1350	0.0917	0.0606	0.0390	0.0245	0.0151	0.0091	0.0054	0.0031	0.0002	0.0000	0.0000
13	0.2745	0.2009	0.1426	0.0984	0.0661	0.0434	0.0278	0.0174	0.0107	0.0065	0.0004	0.0000	0.0000
14	0.3675	0.2808	0.2081	0.1497	0.1049	0.0716	0.0477	0.0311	0.0198	0.0124	0.0009	0.0000	0.0000
15	0.4667	0.3715	0.2867	0.2148	0.1565	0.1111	0.0769	0.0520	0.0344	0.0223	0.0019	0.0001	0.0000
16	0.5660	0.4677	0.3751	0.2920	0.2211	0.1629	0.1170	0.0821	0.0563	0.0377	0.0039	0.0003	0.0000
17	0.6593	0.5640	0.4686	0.3784	0.2970	0.2270	0.1690	0.1228	0.0871	0.0605	0.0073	0.0006	0.0000
18	0.7423	0.6550	0.5622	0.4695	0.3814	0.3017	0.2325	0.1748	0.1283	0.0920	0.0129	0.0012	0.0001
19	0.8122	0.7363	0.6509	0.5606	0.4703	0.3843	0.3060	0.2377	0.1803	0.1336	0.0219	0.0023	0.0002
20	0.8682	0.8055	0.7307	0.6472	0.5591	0.4710	0.3869	0.3101	0.2426	0.1855	0.0353	0.0043	0.0004
21	0.9108	0.8615	0.7991	0.7255	0.6437	0.5577	0.4716	0.3894	0.3139	0.2473	0.0544	0.0076	0.0007
22	0.9418	0.9047	0.8551	0.7931	0.7206	0.6405	0.5564	0.4723	0.3917	0.3175	0.0806	0.0128	0.0014
23	0.9633	0.9367	0.8989	0.8490	0.7875	0.7160	0.6374	0.5551	0.4728	0.3939	0.1146	0.0208	0.0026
24	0.9777	0.9594	0.9317	0.8933	0.8432	0.7822	0.7117	0.6346	0.5540	0.4734	0.1572	0.0324	0.0045
25	0.9869	0.9748	0.9554	0.9269	0.8878	0.8377	0.7771	0.7077	0.6319	0.5529	0.2084	0.0486	0.0076
26	0.9925	0.9848	0.9718	0.9514	0.9221	0.8826	0.8324	0.7723	0.7038	0.6294	0.2673	0.0705	0.0123
27	0.9959	0.9912	0.9827	0.9687	0.9475	0.9175	0.8775	0.8274	0.7677	0.7002	0.3329	0.0988	0.0193
28	0.9978	0.9950	0.9897	0.9805	0.9657	0.9436	0.9129	0.8726	0.8225	0.7634	0.4031	0.1343	0.0294
29	0.9989	0.9973	0.9941	0.9882	0.9782	0.9626	0.9398	0.9085	0.8679	0.8179	0.4757	0.1770	0.0432
30	0.9994	0.9986	0.9967	0.9930	0.9865	0.9758	0.9595	0.9360	0.9042	0.8633	0.5484	0.2269	0.0617
31	0.9997	0.9993	0.9982	0.9960	0.9919	0.9848	0.9735	0.9564	0.9322	0.8999	0.6186	0.2833	0.0855
32	0.9999	0.9996	0.9990	0.9978	0.9953	0.9907	0.9831	0.9711	0.9533	0.9285	0.6845	0.3449	0.1153
33	0.9999	0.9998	0.9995	0.9988	0.9973	0.9945	0.9895	0.9813	0.9686	0.9502	0.7444	0.4102	0.1514
34	1.0000	0.9999	0.9998	0.9994	0.9985	0.9968	0.9936	0.9882	0.9794	0.9662	0.7973	0.4775	0.1939
35	1.0000	1.0000	0.9999	0.9997	0.9992	0.9982	0.9962	0.9927	0.9868	0.9775	0.8426	0.5448	0.2424
36	1.0000	1.0000	0.9999	0.9998	0.9996	0.9990	0.9978	0.9956	0.9918	0.9854	0.8804	0.6102	0.2963
37	1.0000	1.0000	1.0000	0.9999	0.9998	0.9995	0.9988	0.9974	0.9950	0.9908	0.9110	0.6721	0.3547
38	1.0000	1.0000	1.0000	1.0000	0.9999	0.9997	0.9993	0.9985	0.9970	0.9943	0.9352	0.7291	0.4160
39	1.0000	1.0000	1.0000	1.0000	0.9999	0.9999	0.9996	0.9992	0.9983	0.9966	0.9537	0.7802	0.4790
40	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9998	0.9996	0.9990	0.9980	0.9677	0.8249	0.5419
41	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9998	0.9995	0.9988	0.9779	0.8631	0.6033
42	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9997	0.9993	0.9852	0.8950	0.6618
43	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9998	0.9996	0.9903	0.9209	0.7162

→

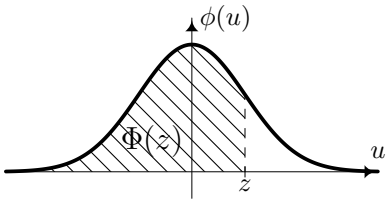
x	16	17	18	19	20	21	22	23	24	25	30	35	40
44	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9998	0.9937	0.9415	0.7657
45	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9960	0.9575	0.8097
46	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9975	0.9697	0.8479
47	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9985	0.9788	0.8804
48	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9991	0.9854	0.9075
49	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9995	0.9902	0.9297
50	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9997	0.9935	0.9474
51	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9998	0.9957	0.9613
52	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9973	0.9719
53	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9983	0.9800
54	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9989	0.9860
55	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9993	0.9903
56	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9996	0.9934
57	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9998	0.9956
58	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9971
59	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9981
60	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9988
61	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9992
62	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9995
63	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9997
64	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9998
65	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999
66	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999
67	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

3 Normal distribution

Cumulative distribution function $\Phi(z)$

The table below contains the probability

$$\Phi(z) = \mathbb{P}\{Z \leq z\} = \int_{-\infty}^{z} \phi(u)\, du = \int_{-\infty}^{z} \frac{1}{\sqrt{2\pi}} \exp\left(-\frac{u^2}{2}\right)\, du$$

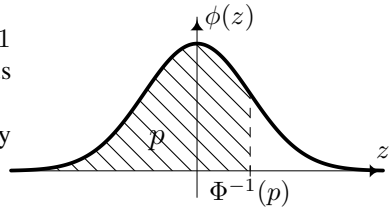


for a normally distributed random variable Z with expected value 0 and variance 1. The table only contains the probabilities for $z \geq 0$. For $z < 0$, the probabilities can be obtained using the identity $\Phi(z) = 1 - \Phi(-z)$.

	z									
z	□.□0	□.□1	□.□2	□.□3	□.□4	□.□5	□.□6	□.□7	□.□8	□.□9
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
3.5□	0.9998	0.9998	0.9998	0.9998	0.9998	0.9998	0.9998	0.9998	0.9998	0.9998
3.6□	0.9998	0.9998	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
3.7□	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
3.8□	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
3.9□	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Inverse $\Phi^{-1}(p)$ of the cumulative distribution function (quantiles)

The table below contains the quantiles of the standard normal distribution. For $0 < p < 1$ the quantile is the value of z for which $\mathbb{P}\{Z \leq z\} = p$, where $Z \sim \mathsf{N}(0,1)$. Thus $z = \Phi^{-1}(p)$.
The table only contains the quantiles for $p \geq \frac{1}{2}$. For $p < \frac{1}{2}$ quantiles can be obtained by exploiting the symmetry of the normal distribution: $\Phi^{-1}(p) = -\Phi^{-1}(1-p)$.



	p									
p	0.□□0	0.□□1	0.□□2	0.□□3	0.□□4	0.□□5	0.□□6	0.□□7	0.□□8	0.□□9
0.50□	0.0000	0.0025	0.0050	0.0075	0.0100	0.0125	0.0150	0.0175	0.0201	0.0226
0.51□	0.0251	0.0276	0.0301	0.0326	0.0351	0.0376	0.0401	0.0426	0.0451	0.0476
0.52□	0.0502	0.0527	0.0552	0.0577	0.0602	0.0627	0.0652	0.0677	0.0702	0.0728
0.53□	0.0753	0.0778	0.0803	0.0828	0.0853	0.0878	0.0904	0.0929	0.0954	0.0979
0.54□	0.1004	0.1030	0.1055	0.1080	0.1105	0.1130	0.1156	0.1181	0.1206	0.1231
0.55□	0.1257	0.1282	0.1307	0.1332	0.1358	0.1383	0.1408	0.1434	0.1459	0.1484
0.56□	0.1510	0.1535	0.1560	0.1586	0.1611	0.1637	0.1662	0.1687	0.1713	0.1738
0.57□	0.1764	0.1789	0.1815	0.1840	0.1866	0.1891	0.1917	0.1942	0.1968	0.1993
0.58□	0.2019	0.2045	0.2070	0.2096	0.2121	0.2147	0.2173	0.2198	0.2224	0.2250
0.59□	0.2275	0.2301	0.2327	0.2353	0.2378	0.2404	0.2430	0.2456	0.2482	0.2508
0.60□	0.2533	0.2559	0.2585	0.2611	0.2637	0.2663	0.2689	0.2715	0.2741	0.2767
0.61□	0.2793	0.2819	0.2845	0.2871	0.2898	0.2924	0.2950	0.2976	0.3002	0.3029
0.62□	0.3055	0.3081	0.3107	0.3134	0.3160	0.3186	0.3213	0.3239	0.3266	0.3292
0.63□	0.3319	0.3345	0.3372	0.3398	0.3425	0.3451	0.3478	0.3505	0.3531	0.3558
0.64□	0.3585	0.3611	0.3638	0.3665	0.3692	0.3719	0.3745	0.3772	0.3799	0.3826
0.65□	0.3853	0.3880	0.3907	0.3934	0.3961	0.3989	0.4016	0.4043	0.4070	0.4097
0.66□	0.4125	0.4152	0.4179	0.4207	0.4234	0.4261	0.4289	0.4316	0.4344	0.4372
0.67□	0.4399	0.4427	0.4454	0.4482	0.4510	0.4538	0.4565	0.4593	0.4621	0.4649
0.68□	0.4677	0.4705	0.4733	0.4761	0.4789	0.4817	0.4845	0.4874	0.4902	0.4930
0.69□	0.4959	0.4987	0.5015	0.5044	0.5072	0.5101	0.5129	0.5158	0.5187	0.5215
0.70□	0.5244	0.5273	0.5302	0.5330	0.5359	0.5388	0.5417	0.5446	0.5476	0.5505
0.71□	0.5534	0.5563	0.5592	0.5622	0.5651	0.5681	0.5710	0.5740	0.5769	0.5799
0.72□	0.5828	0.5858	0.5888	0.5918	0.5948	0.5978	0.6008	0.6038	0.6068	0.6098
0.73□	0.6128	0.6158	0.6189	0.6219	0.6250	0.6280	0.6311	0.6341	0.6372	0.6403
0.74□	0.6433	0.6464	0.6495	0.6526	0.6557	0.6588	0.6620	0.6651	0.6682	0.6713
0.75□	0.6745	0.6776	0.6808	0.6840	0.6871	0.6903	0.6935	0.6967	0.6999	0.7031
0.76□	0.7063	0.7095	0.7128	0.7160	0.7192	0.7225	0.7257	0.7290	0.7323	0.7356
0.77□	0.7388	0.7421	0.7454	0.7488	0.7521	0.7554	0.7588	0.7621	0.7655	0.7688
0.78□	0.7722	0.7756	0.7790	0.7824	0.7858	0.7892	0.7926	0.7961	0.7995	0.8030
0.79□	0.8064	0.8099	0.8134	0.8169	0.8204	0.8239	0.8274	0.8310	0.8345	0.8381
0.80□	0.8416	0.8452	0.8488	0.8524	0.8560	0.8596	0.8633	0.8669	0.8705	0.8742
0.81□	0.8779	0.8816	0.8853	0.8890	0.8927	0.8965	0.9002	0.9040	0.9078	0.9116
0.82□	0.9154	0.9192	0.9230	0.9269	0.9307	0.9346	0.9385	0.9424	0.9463	0.9502
0.83□	0.9542	0.9581	0.9621	0.9661	0.9701	0.9741	0.9782	0.9822	0.9863	0.9904
0.84□	0.9945	0.9986	1.0027	1.0069	1.0110	1.0152	1.0194	1.0237	1.0279	1.0322
0.85□	1.0364	1.0407	1.0450	1.0494	1.0537	1.0581	1.0625	1.0669	1.0714	1.0758
0.86□	1.0803	1.0848	1.0893	1.0939	1.0985	1.1031	1.1077	1.1123	1.1170	1.1217
0.87□	1.1264	1.1311	1.1359	1.1407	1.1455	1.1503	1.1552	1.1601	1.1650	1.1700
0.88□	1.1750	1.1800	1.1850	1.1901	1.1952	1.2004	1.2055	1.2107	1.2160	1.2212
0.89□	1.2265	1.2319	1.2372	1.2426	1.2481	1.2536	1.2591	1.2646	1.2702	1.2759
0.90□	1.2816	1.2873	1.2930	1.2988	1.3047	1.3106	1.3165	1.3225	1.3285	1.3346
0.91□	1.3408	1.3469	1.3532	1.3595	1.3658	1.3722	1.3787	1.3852	1.3917	1.3984
0.92□	1.4051	1.4118	1.4187	1.4255	1.4325	1.4395	1.4466	1.4538	1.4611	1.4684
0.93□	1.4758	1.4833	1.4909	1.4985	1.5063	1.5141	1.5220	1.5301	1.5382	1.5464
0.94□	1.5548	1.5632	1.5718	1.5805	1.5893	1.5982	1.6072	1.6164	1.6258	1.6352
0.95□	1.6449	1.6546	1.6646	1.6747	1.6849	1.6954	1.7060	1.7169	1.7279	1.7392
0.96□	1.7507	1.7624	1.7744	1.7866	1.7991	1.8119	1.8250	1.8384	1.8522	1.8663
0.97□	1.8808	1.8957	1.9110	1.9268	1.9431	1.9600	1.9774	1.9954	2.0141	2.0335
0.98□	2.0537	2.0749	2.0969	2.1201	2.1444	2.1701	2.1973	2.2262	2.2571	2.2904
0.99□	2.3263	2.3656	2.4089	2.4573	2.5121	2.5758	2.6521	2.7478	2.8782	3.0902

Selected quantiles $\Phi^{-1}(p)$ in high precision

p	$\Phi^{-1}(p)$
0.9	1.2815515655
0.95	1.6448536270
0.975	1.9599639845
0.99	2.3263478740
0.995	2.5758293035
0.9975	2.8070337683

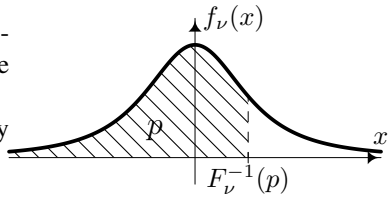
p	$\Phi^{-1}(p)$
0.999	3.0902323062
0.9995	3.2905267315
0.99975	3.4807564043
0.9999	3.7190164855
0.99995	3.8905918864
0.999975	4.0556269811

p	$\Phi^{-1}(p)$
0.99999	4.2648907939
0.999995	4.4171734135
0.9999975	4.5647877303
0.999999	4.7534243088
0.9999995	4.8916384757
0.99999975	5.0263128360

4 Student's t distribution

Inverse $F_\nu^{-1}(p)$ of the cumulative distribution function (quantiles)

The table below contains the quantiles of Student's t distribution with ν degrees of freedom. For $0 < p < 1$ the quantile is the value of x for which $\mathbb{P}\{X \leq x\} = p$, where $X \sim \mathrm{t}(\nu)$. Thus $x = F_\nu^{-1}(p)$.
The table only contains the quantiles for $p \geq \frac{1}{2}$. For $p < \frac{1}{2}$ quantiles can be obtained by exploiting the symmetry of the t distribution: $F_\nu^{-1}(p) = -F_\nu^{-1}(1-p)$.



	p											
ν	0.6	0.7	0.75	0.8	0.85	0.9	0.95	0.975	0.99	0.995	0.999	0.9995
1	0.3249	0.7265	1.0000	1.3764	1.9626	3.0777	6.3138	12.706	31.821	63.657	318.31	636.62
2	0.2887	0.6172	0.8165	1.0607	1.3862	1.8856	2.9200	4.3027	6.9646	9.9248	22.327	31.599
3	0.2767	0.5844	0.7649	0.9785	1.2498	1.6377	2.3534	3.1824	4.5407	5.8409	10.215	12.924
4	0.2707	0.5686	0.7407	0.9410	1.1896	1.5332	2.1318	2.7764	3.7469	4.6041	7.1732	8.6103
5	0.2672	0.5594	0.7267	0.9195	1.1558	1.4759	2.0150	2.5706	3.3649	4.0321	5.8934	6.8688
6	0.2648	0.5534	0.7176	0.9057	1.1342	1.4398	1.9432	2.4469	3.1427	3.7074	5.2076	5.9588
7	0.2632	0.5491	0.7111	0.8960	1.1192	1.4149	1.8946	2.3646	2.9980	3.4995	4.7853	5.4079
8	0.2619	0.5459	0.7064	0.8889	1.1081	1.3968	1.8595	2.3060	2.8965	3.3554	4.5008	5.0413
9	0.2610	0.5435	0.7027	0.8834	1.0997	1.3830	1.8331	2.2622	2.8214	3.2498	4.2968	4.7809
10	0.2602	0.5415	0.6998	0.8791	1.0931	1.3722	1.8125	2.2281	2.7638	3.1693	4.1437	4.5869
11	0.2596	0.5399	0.6974	0.8755	1.0877	1.3634	1.7959	2.2010	2.7181	3.1058	4.0247	4.4370
12	0.2590	0.5386	0.6955	0.8726	1.0832	1.3562	1.7823	2.1788	2.6810	3.0545	3.9296	4.3178
13	0.2586	0.5375	0.6938	0.8702	1.0795	1.3502	1.7709	2.1604	2.6503	3.0123	3.8520	4.2208
14	0.2582	0.5366	0.6924	0.8681	1.0763	1.3450	1.7613	2.1448	2.6245	2.9768	3.7874	4.1405
15	0.2579	0.5357	0.6912	0.8662	1.0735	1.3406	1.7531	2.1314	2.6025	2.9467	3.7328	4.0728
16	0.2576	0.5350	0.6901	0.8647	1.0711	1.3368	1.7459	2.1199	2.5835	2.9208	3.6862	4.0150
17	0.2573	0.5344	0.6892	0.8633	1.0690	1.3334	1.7396	2.1098	2.5669	2.8982	3.6458	3.9651
18	0.2571	0.5338	0.6884	0.8620	1.0672	1.3304	1.7341	2.1009	2.5524	2.8784	3.6105	3.9216
19	0.2569	0.5333	0.6876	0.8610	1.0655	1.3277	1.7291	2.0930	2.5395	2.8609	3.5794	3.8834
20	0.2567	0.5329	0.6870	0.8600	1.0640	1.3253	1.7247	2.0860	2.5280	2.8453	3.5518	3.8495
21	0.2566	0.5325	0.6864	0.8591	1.0627	1.3232	1.7207	2.0796	2.5176	2.8314	3.5272	3.8193
22	0.2564	0.5321	0.6858	0.8583	1.0614	1.3212	1.7171	2.0739	2.5083	2.8188	3.5050	3.7921
23	0.2563	0.5317	0.6853	0.8575	1.0603	1.3195	1.7139	2.0687	2.4999	2.8073	3.4850	3.7676
24	0.2562	0.5314	0.6848	0.8569	1.0593	1.3178	1.7109	2.0639	2.4922	2.7969	3.4668	3.7454
25	0.2561	0.5312	0.6844	0.8562	1.0584	1.3163	1.7081	2.0595	2.4851	2.7874	3.4502	3.7251
26	0.2560	0.5309	0.6840	0.8557	1.0575	1.3150	1.7056	2.0555	2.4786	2.7787	3.4350	3.7066
27	0.2559	0.5306	0.6837	0.8551	1.0567	1.3137	1.7033	2.0518	2.4727	2.7707	3.4210	3.6896
28	0.2558	0.5304	0.6834	0.8546	1.0560	1.3125	1.7011	2.0484	2.4671	2.7633	3.4082	3.6739
29	0.2557	0.5302	0.6830	0.8542	1.0553	1.3114	1.6991	2.0452	2.4620	2.7564	3.3962	3.6594
30	0.2556	0.5300	0.6828	0.8538	1.0547	1.3104	1.6973	2.0423	2.4573	2.7500	3.3852	3.6460
31	0.2555	0.5298	0.6825	0.8534	1.0541	1.3095	1.6955	2.0395	2.4528	2.7440	3.3749	3.6335
32	0.2555	0.5297	0.6822	0.8530	1.0535	1.3086	1.6939	2.0369	2.4487	2.7385	3.3653	3.6218
33	0.2554	0.5295	0.6820	0.8526	1.0530	1.3077	1.6924	2.0345	2.4448	2.7333	3.3563	3.6109
34	0.2553	0.5294	0.6818	0.8523	1.0525	1.3070	1.6909	2.0322	2.4411	2.7284	3.3479	3.6007
35	0.2553	0.5292	0.6816	0.8520	1.0520	1.3062	1.6896	2.0301	2.4377	2.7238	3.3400	3.5911
36	0.2552	0.5291	0.6814	0.8517	1.0516	1.3055	1.6883	2.0281	2.4345	2.7195	3.3326	3.5821
37	0.2552	0.5289	0.6812	0.8514	1.0512	1.3049	1.6871	2.0262	2.4314	2.7154	3.3256	3.5737
38	0.2551	0.5288	0.6810	0.8512	1.0508	1.3042	1.6860	2.0244	2.4286	2.7116	3.3190	3.5657
39	0.2551	0.5287	0.6808	0.8509	1.0504	1.3036	1.6849	2.0227	2.4258	2.7079	3.3128	3.5581
40	0.2550	0.5286	0.6807	0.8507	1.0500	1.3031	1.6839	2.0211	2.4233	2.7045	3.3069	3.5510
41	0.2550	0.5285	0.6805	0.8505	1.0497	1.3025	1.6829	2.0195	2.4208	2.7012	3.3013	3.5442
42	0.2550	0.5284	0.6804	0.8503	1.0494	1.3020	1.6820	2.0181	2.4185	2.6981	3.2960	3.5377
43	0.2549	0.5283	0.6802	0.8501	1.0491	1.3016	1.6811	2.0167	2.4163	2.6951	3.2909	3.5316
44	0.2549	0.5282	0.6801	0.8499	1.0488	1.3011	1.6802	2.0154	2.4141	2.6923	3.2861	3.5258
45	0.2549	0.5281	0.6800	0.8497	1.0485	1.3006	1.6794	2.0141	2.4121	2.6896	3.2815	3.5203
46	0.2548	0.5281	0.6799	0.8495	1.0483	1.3002	1.6787	2.0129	2.4102	2.6870	3.2771	3.5150
47	0.2548	0.5280	0.6797	0.8493	1.0480	1.2998	1.6779	2.0117	2.4083	2.6846	3.2729	3.5099
48	0.2548	0.5279	0.6796	0.8492	1.0478	1.2994	1.6772	2.0106	2.4066	2.6822	3.2689	3.5051
49	0.2547	0.5278	0.6795	0.8490	1.0475	1.2991	1.6766	2.0096	2.4049	2.6800	3.2651	3.5004

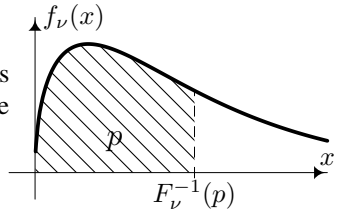
→

ν	0.6	0.7	0.75	0.8	0.85	0.9	0.95	0.975	0.99	0.995	0.999	0.9995
50	0.2547	0.5278	0.6794	0.8489	1.0473	1.2987	1.6759	2.0086	2.4033	2.6778	3.2614	3.4960
51	0.2547	0.5277	0.6793	0.8487	1.0471	1.2984	1.6753	2.0076	2.4017	2.6757	3.2579	3.4918
52	0.2546	0.5276	0.6792	0.8486	1.0469	1.2980	1.6747	2.0066	2.4002	2.6737	3.2545	3.4877
53	0.2546	0.5276	0.6791	0.8485	1.0467	1.2977	1.6741	2.0057	2.3988	2.6718	3.2513	3.4838
54	0.2546	0.5275	0.6791	0.8483	1.0465	1.2974	1.6736	2.0049	2.3974	2.6700	3.2481	3.4800
55	0.2546	0.5275	0.6790	0.8482	1.0463	1.2971	1.6730	2.0040	2.3961	2.6682	3.2451	3.4764
56	0.2546	0.5274	0.6789	0.8481	1.0461	1.2969	1.6725	2.0032	2.3948	2.6665	3.2423	3.4729
57	0.2545	0.5273	0.6788	0.8480	1.0459	1.2966	1.6720	2.0025	2.3936	2.6649	3.2395	3.4696
58	0.2545	0.5273	0.6787	0.8479	1.0458	1.2963	1.6716	2.0017	2.3924	2.6633	3.2368	3.4663
59	0.2545	0.5272	0.6787	0.8478	1.0456	1.2961	1.6711	2.0010	2.3912	2.6618	3.2342	3.4632
60	0.2545	0.5272	0.6786	0.8477	1.0455	1.2958	1.6706	2.0003	2.3901	2.6603	3.2317	3.4602
61	0.2545	0.5272	0.6785	0.8476	1.0453	1.2956	1.6702	1.9996	2.3890	2.6589	3.2293	3.4573
62	0.2544	0.5271	0.6785	0.8475	1.0452	1.2954	1.6698	1.9990	2.3880	2.6575	3.2270	3.4545
63	0.2544	0.5271	0.6784	0.8474	1.0450	1.2951	1.6694	1.9983	2.3870	2.6561	3.2247	3.4518
64	0.2544	0.5270	0.6783	0.8473	1.0449	1.2949	1.6690	1.9977	2.3860	2.6549	3.2225	3.4491
65	0.2544	0.5270	0.6783	0.8472	1.0448	1.2947	1.6686	1.9971	2.3851	2.6536	3.2204	3.4466
66	0.2544	0.5269	0.6782	0.8471	1.0446	1.2945	1.6683	1.9966	2.3842	2.6524	3.2184	3.4441
67	0.2544	0.5269	0.6782	0.8470	1.0445	1.2943	1.6679	1.9960	2.3833	2.6512	3.2164	3.4417
68	0.2543	0.5269	0.6781	0.8469	1.0444	1.2941	1.6676	1.9955	2.3824	2.6501	3.2145	3.4394
69	0.2543	0.5268	0.6781	0.8469	1.0443	1.2939	1.6672	1.9949	2.3816	2.6490	3.2126	3.4372
70	0.2543	0.5268	0.6780	0.8468	1.0442	1.2938	1.6669	1.9944	2.3808	2.6479	3.2108	3.4350
71	0.2543	0.5268	0.6780	0.8467	1.0441	1.2936	1.6666	1.9939	2.3800	2.6469	3.2090	3.4329
72	0.2543	0.5267	0.6779	0.8466	1.0440	1.2934	1.6663	1.9935	2.3793	2.6459	3.2073	3.4308
73	0.2543	0.5267	0.6779	0.8466	1.0438	1.2933	1.6660	1.9930	2.3785	2.6449	3.2057	3.4289
74	0.2543	0.5267	0.6778	0.8465	1.0437	1.2931	1.6657	1.9925	2.3778	2.6439	3.2041	3.4269
75	0.2542	0.5266	0.6778	0.8464	1.0436	1.2929	1.6654	1.9921	2.3771	2.6430	3.2025	3.4250
76	0.2542	0.5266	0.6777	0.8464	1.0436	1.2928	1.6652	1.9917	2.3764	2.6421	3.2010	3.4232
77	0.2542	0.5266	0.6777	0.8463	1.0435	1.2926	1.6649	1.9913	2.3758	2.6412	3.1995	3.4214
78	0.2542	0.5266	0.6776	0.8463	1.0434	1.2925	1.6646	1.9908	2.3751	2.6403	3.1980	3.4197
79	0.2542	0.5265	0.6776	0.8462	1.0433	1.2924	1.6644	1.9905	2.3745	2.6395	3.1966	3.4180
80	0.2542	0.5265	0.6776	0.8461	1.0432	1.2922	1.6641	1.9901	2.3739	2.6387	3.1953	3.4163
81	0.2542	0.5265	0.6775	0.8461	1.0431	1.2921	1.6639	1.9897	2.3733	2.6379	3.1939	3.4147
82	0.2542	0.5264	0.6775	0.8460	1.0430	1.2920	1.6636	1.9893	2.3727	2.6371	3.1926	3.4132
83	0.2542	0.5264	0.6775	0.8460	1.0429	1.2918	1.6634	1.9890	2.3721	2.6364	3.1913	3.4116
84	0.2542	0.5264	0.6774	0.8459	1.0429	1.2917	1.6632	1.9886	2.3716	2.6356	3.1901	3.4102
85	0.2541	0.5264	0.6774	0.8459	1.0428	1.2916	1.6630	1.9883	2.3710	2.6349	3.1889	3.4087
86	0.2541	0.5263	0.6774	0.8458	1.0427	1.2915	1.6628	1.9879	2.3705	2.6342	3.1877	3.4073
87	0.2541	0.5263	0.6773	0.8458	1.0426	1.2914	1.6626	1.9876	2.3700	2.6335	3.1866	3.4059
88	0.2541	0.5263	0.6773	0.8457	1.0426	1.2912	1.6624	1.9873	2.3695	2.6329	3.1854	3.4045
89	0.2541	0.5263	0.6773	0.8457	1.0425	1.2911	1.6622	1.9870	2.3690	2.6322	3.1843	3.4032
90	0.2541	0.5263	0.6772	0.8456	1.0424	1.2910	1.6620	1.9867	2.3685	2.6316	3.1833	3.4019
91	0.2541	0.5262	0.6772	0.8456	1.0424	1.2909	1.6618	1.9864	2.3680	2.6309	3.1822	3.4007
92	0.2541	0.5262	0.6772	0.8455	1.0423	1.2908	1.6616	1.9861	2.3676	2.6303	3.1812	3.3994
93	0.2541	0.5262	0.6771	0.8455	1.0422	1.2907	1.6614	1.9858	2.3671	2.6297	3.1802	3.3982
94	0.2541	0.5262	0.6771	0.8455	1.0422	1.2906	1.6612	1.9855	2.3667	2.6291	3.1792	3.3971
95	0.2541	0.5262	0.6771	0.8454	1.0421	1.2905	1.6611	1.9853	2.3662	2.6286	3.1782	3.3959
96	0.2541	0.5261	0.6771	0.8454	1.0421	1.2904	1.6609	1.9850	2.3658	2.6280	3.1773	3.3948
97	0.2540	0.5261	0.6770	0.8453	1.0420	1.2903	1.6607	1.9847	2.3654	2.6275	3.1764	3.3937
98	0.2540	0.5261	0.6770	0.8453	1.0419	1.2902	1.6606	1.9845	2.3650	2.6269	3.1755	3.3926
99	0.2540	0.5261	0.6770	0.8453	1.0419	1.2902	1.6604	1.9842	2.3646	2.6264	3.1746	3.3915
100	0.2540	0.5261	0.6770	0.8452	1.0418	1.2901	1.6602	1.9840	2.3642	2.6259	3.1737	3.3905
110	0.2540	0.5259	0.6767	0.8449	1.0413	1.2893	1.6588	1.9818	2.3607	2.6213	3.1660	3.3812
120	0.2539	0.5258	0.6765	0.8446	1.0409	1.2886	1.6577	1.9799	2.3578	2.6174	3.1595	3.3735
150	0.2538	0.5255	0.6761	0.8440	1.0400	1.2872	1.6551	1.9759	2.3515	2.6090	3.1455	3.3566
200	0.2537	0.5252	0.6757	0.8434	1.0391	1.2858	1.6525	1.9719	2.3451	2.6006	3.1315	3.3398
500	0.2535	0.5247	0.6750	0.8423	1.0375	1.2832	1.6479	1.9647	2.3338	2.5857	3.1066	3.3101

5 χ^2 distribution

Inverse $F_\nu^{-1}(p)$ of the cumulative distribution function (quantiles)

The table below contains the quantiles of the χ^2 (chi-squared) distribution with ν degrees of freedom. For $0 < p < 1$ the quantile is the value of x for which $\mathbb{P}\{X \leq x\} = p$, where $X \sim \chi^2(\nu)$. Thus $x = F_\nu^{-1}(p)$.



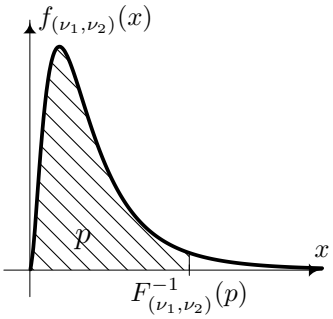
	p											
ν	0.005	0.01	0.025	0.05	0.1	0.5	0.9	0.95	0.975	0.99	0.995	0.999
1	0.0000	0.0002	0.0010	0.0039	0.0158	0.4549	2.7055	3.8415	5.0239	6.6349	7.8794	10.828
2	0.0100	0.0201	0.0506	0.1026	0.2107	1.3863	4.6052	5.9915	7.3778	9.2103	10.597	13.816
3	0.0717	0.1148	0.2158	0.3518	0.5844	2.3660	6.2514	7.8147	9.3484	11.345	12.838	16.266
4	0.2070	0.2971	0.4844	0.7107	1.0636	3.3567	7.7794	9.4877	11.143	13.277	14.860	18.467
5	0.4117	0.5543	0.8312	1.1455	1.6103	4.3515	9.2364	11.070	12.833	15.086	16.750	20.515
6	0.6757	0.8721	1.2373	1.6354	2.2041	5.3481	10.645	12.592	14.449	16.812	18.548	22.458
7	0.9893	1.2390	1.6899	2.1673	2.8331	6.3458	12.017	14.067	16.013	18.475	20.278	24.322
8	1.3444	1.6465	2.1797	2.7326	3.4895	7.3441	13.362	15.507	17.535	20.090	21.955	26.124
9	1.7349	2.0879	2.7004	3.3251	4.1682	8.3428	14.684	16.919	19.023	21.666	23.589	27.877
10	2.1559	2.5582	3.2470	3.9403	4.8652	9.3418	15.987	18.307	20.483	23.209	25.188	29.588
11	2.6032	3.0535	3.8157	4.5748	5.5778	10.341	17.275	19.675	21.920	24.725	26.757	31.264
12	3.0738	3.5706	4.4038	5.2260	6.3038	11.340	18.549	21.026	23.337	26.217	28.300	32.909
13	3.5650	4.1069	5.0088	5.8919	7.0415	12.340	19.812	22.362	24.736	27.688	29.819	34.528
14	4.0747	4.6604	5.6287	6.5706	7.7895	13.339	21.064	23.685	26.119	29.141	31.319	36.123
15	4.6009	5.2293	6.2621	7.2609	8.5468	14.339	22.307	24.996	27.488	30.578	32.801	37.697
16	5.1422	5.8122	6.9077	7.9616	9.3122	15.338	23.542	26.296	28.845	32.000	34.267	39.252
17	5.6972	6.4078	7.5642	8.6718	10.085	16.338	24.769	27.587	30.191	33.409	35.718	40.790
18	6.2648	7.0149	8.2307	9.3905	10.865	17.338	25.989	28.869	31.526	34.805	37.156	42.312
19	6.8440	7.6327	8.9065	10.117	11.651	18.338	27.204	30.144	32.852	36.191	38.582	43.820
20	7.4338	8.2604	9.5908	10.851	12.443	19.337	28.412	31.410	34.170	37.566	39.997	45.315
21	8.0337	8.8972	10.283	11.591	13.240	20.337	29.615	32.671	35.479	38.932	41.401	46.797
22	8.6427	9.5425	10.982	12.338	14.041	21.337	30.813	33.924	36.781	40.289	42.796	48.268
23	9.2604	10.196	11.689	13.091	14.848	22.337	32.007	35.172	38.076	41.638	44.181	49.728
24	9.8862	10.856	12.401	13.848	15.659	23.337	33.196	36.415	39.364	42.980	45.559	51.179
25	10.520	11.524	13.120	14.611	16.473	24.337	34.382	37.652	40.646	44.314	46.928	52.620
26	11.160	12.198	13.844	15.379	17.292	25.336	35.563	38.885	41.923	45.642	48.290	54.052
27	11.808	12.879	14.573	16.151	18.114	26.336	36.741	40.113	43.195	46.963	49.645	55.476
28	12.461	13.565	15.308	16.928	18.939	27.336	37.916	41.337	44.461	48.278	50.993	56.892
29	13.121	14.256	16.047	17.708	19.768	28.336	39.087	42.557	45.722	49.588	52.336	58.301
30	13.787	14.953	16.791	18.493	20.599	29.336	40.256	43.773	46.979	50.892	53.672	59.703
31	14.458	15.655	17.539	19.281	21.434	30.336	41.422	44.985	48.232	52.191	55.003	61.098
32	15.134	16.362	18.291	20.072	22.271	31.336	42.585	46.194	49.480	53.486	56.328	62.487
33	15.815	17.074	19.047	20.867	23.110	32.336	43.745	47.400	50.725	54.776	57.648	63.870
34	16.501	17.789	19.806	21.664	23.952	33.336	44.903	48.602	51.966	56.061	58.964	65.247
35	17.192	18.509	20.569	22.465	24.797	34.336	46.059	49.802	53.203	57.342	60.275	66.619
36	17.887	19.233	21.336	23.269	25.643	35.336	47.212	50.998	54.437	58.619	61.581	67.985
37	18.586	19.960	22.106	24.075	26.492	36.336	48.363	52.192	55.668	59.893	62.883	69.346
38	19.289	20.691	22.878	24.884	27.343	37.335	49.513	53.384	56.896	61.162	64.181	70.703
39	19.996	21.426	23.654	25.695	28.196	38.335	50.660	54.572	58.120	62.428	65.476	72.055
40	20.707	22.164	24.433	26.509	29.051	39.335	51.805	55.758	59.342	63.691	66.766	73.402
41	21.421	22.906	25.215	27.326	29.907	40.335	52.949	56.942	60.561	64.950	68.053	74.745
42	22.138	23.650	25.999	28.144	30.765	41.335	54.090	58.124	61.777	66.206	69.336	76.084
43	22.859	24.398	26.785	28.965	31.625	42.335	55.230	59.304	62.990	67.459	70.616	77.419
44	23.584	25.148	27.575	29.787	32.487	43.335	56.369	60.481	64.201	68.710	71.893	78.750
45	24.311	25.901	28.366	30.612	33.350	44.335	57.505	61.656	65.410	69.957	73.166	80.077
46	25.041	26.657	29.160	31.439	34.215	45.335	58.641	62.830	66.617	71.201	74.437	81.400
47	25.775	27.416	29.956	32.268	35.081	46.335	59.774	64.001	67.821	72.443	75.704	82.720
48	26.511	28.177	30.755	33.098	35.949	47.335	60.907	65.171	69.023	73.683	76.969	84.037

→

ν	0.005	0.01	0.025	0.05	0.1	0.5	0.9	0.95	0.975	0.99	0.995	0.999
49	27.249	28.941	31.555	33.930	36.818	48.335	62.038	66.339	70.222	74.919	78.231	85.351
50	27.991	29.707	32.357	34.764	37.689	49.335	63.167	67.505	71.420	76.154	79.490	86.661
51	28.735	30.475	33.162	35.600	38.560	50.335	64.295	68.669	72.616	77.386	80.747	87.968
52	29.481	31.246	33.968	36.437	39.433	51.335	65.422	69.832	73.810	78.616	82.001	89.272
53	30.230	32.018	34.776	37.276	40.308	52.335	66.548	70.993	75.002	79.843	83.253	90.573
54	30.981	32.793	35.586	38.116	41.183	53.335	67.673	72.153	76.192	81.069	84.502	91.872
55	31.735	33.570	36.398	38.958	42.060	54.335	68.796	73.311	77.380	82.292	85.749	93.168
56	32.490	34.350	37.212	39.801	42.937	55.335	69.919	74.468	78.567	83.513	86.994	94.461
57	33.248	35.131	38.027	40.646	43.816	56.335	71.040	75.624	79.752	84.733	88.236	95.751
58	34.008	35.913	38.844	41.492	44.696	57.335	72.160	76.778	80.936	85.950	89.477	97.039
59	34.770	36.698	39.662	42.339	45.577	58.335	73.279	77.931	82.117	87.166	90.715	98.324
60	35.534	37.485	40.482	43.188	46.459	59.335	74.397	79.082	83.298	88.379	91.952	99.607
61	36.301	38.273	41.303	44.038	47.342	60.335	75.514	80.232	84.476	89.591	93.186	100.89
62	37.068	39.063	42.126	44.889	48.226	61.335	76.630	81.381	85.654	90.802	94.419	102.17
63	37.838	39.855	42.950	45.741	49.111	62.335	77.745	82.529	86.830	92.010	95.649	103.44
64	38.610	40.649	43.776	46.595	49.996	63.335	78.860	83.675	88.004	93.217	96.878	104.72
65	39.383	41.444	44.603	47.450	50.883	64.335	79.973	84.821	89.177	94.422	98.105	105.99
66	40.158	42.240	45.431	48.305	51.770	65.335	81.085	85.965	90.349	95.626	99.330	107.26
67	40.935	43.038	46.261	49.162	52.659	66.335	82.197	87.108	91.519	96.828	100.55	108.53
68	41.713	43.838	47.092	50.020	53.548	67.335	83.308	88.250	92.689	98.028	101.78	109.79
69	42.494	44.639	47.924	50.879	54.438	68.334	84.418	89.391	93.856	99.228	103.00	111.06
70	43.275	45.442	48.758	51.739	55.329	69.334	85.527	90.531	95.023	100.43	104.21	112.32
71	44.058	46.246	49.592	52.600	56.221	70.334	86.635	91.670	96.189	101.62	105.43	113.58
72	44.843	47.051	50.428	53.462	57.113	71.334	87.743	92.808	97.353	102.82	106.65	114.84
73	45.629	47.858	51.265	54.325	58.006	72.334	88.850	93.945	98.516	104.01	107.86	116.09
74	46.417	48.666	52.103	55.189	58.900	73.334	89.956	95.081	99.678	105.20	109.07	117.35
75	47.206	49.475	52.942	56.054	59.795	74.334	91.061	96.217	100.84	106.39	110.29	118.60
76	47.997	50.286	53.782	56.920	60.690	75.334	92.166	97.351	102.00	107.58	111.50	119.85
77	48.788	51.097	54.623	57.786	61.586	76.334	93.270	98.484	103.16	108.77	112.70	121.10
78	49.582	51.910	55.466	58.654	62.483	77.334	94.374	99.617	104.32	109.96	113.91	122.35
79	50.376	52.725	56.309	59.522	63.380	78.334	95.476	100.75	105.47	111.14	115.12	123.59
80	51.172	53.540	57.153	60.391	64.278	79.334	96.578	101.88	106.63	112.33	116.32	124.84
81	51.969	54.357	57.998	61.261	65.176	80.334	97.680	103.01	107.78	113.51	117.52	126.08
82	52.767	55.174	58.845	62.132	66.076	81.334	98.780	104.14	108.94	114.69	118.73	127.32
83	53.567	55.993	59.692	63.004	66.976	82.334	99.880	105.27	110.09	115.88	119.93	128.56
84	54.368	56.813	60.540	63.876	67.876	83.334	100.98	106.39	111.24	117.06	121.13	129.80
85	55.170	57.634	61.389	64.749	68.777	84.334	102.08	107.52	112.39	118.24	122.32	131.04
86	55.973	58.456	62.239	65.623	69.679	85.334	103.18	108.65	113.54	119.41	123.52	132.28
87	56.777	59.279	63.089	66.498	70.581	86.334	104.28	109.77	114.69	120.59	124.72	133.51
88	57.582	60.103	63.941	67.373	71.484	87.334	105.37	110.90	115.84	121.77	125.91	134.75
89	58.389	60.928	64.793	68.249	72.387	88.334	106.47	112.02	116.99	122.94	127.11	135.98
90	59.196	61.754	65.647	69.126	73.291	89.334	107.57	113.15	118.14	124.12	128.30	137.21
91	60.005	62.581	66.501	70.003	74.196	90.334	108.66	114.27	119.28	125.29	129.49	138.44
92	60.815	63.409	67.356	70.882	75.100	91.334	109.76	115.39	120.43	126.46	130.68	139.67
93	61.625	64.238	68.211	71.760	76.006	92.334	110.85	116.51	121.57	127.63	131.87	140.89
94	62.437	65.068	69.068	72.640	76.912	93.334	111.94	117.63	122.72	128.80	133.06	142.12
95	63.250	65.898	69.925	73.520	77.818	94.334	113.04	118.75	123.86	129.97	134.25	143.34
96	64.063	66.730	70.783	74.401	78.725	95.334	114.13	119.87	125.00	131.14	135.43	144.57
97	64.878	67.562	71.642	75.282	79.633	96.334	115.22	120.99	126.14	132.31	136.62	145.79
98	65.694	68.396	72.501	76.164	80.541	97.334	116.32	122.11	127.28	133.48	137.80	147.01
99	66.510	69.230	73.361	77.046	81.449	98.334	117.41	123.23	128.42	134.64	138.99	148.23
100	67.328	70.065	74.222	77.929	82.358	99.334	118.50	124.34	129.56	135.81	140.17	149.45
110	75.550	78.458	82.867	86.792	91.471	109.33	129.39	135.48	140.92	147.41	151.95	161.58
120	83.852	86.923	91.573	95.705	100.62	119.33	140.23	146.57	152.21	158.95	163.65	173.62
150	109.14	112.67	117.98	122.69	128.28	149.33	172.58	179.58	185.80	193.21	198.36	209.26
200	152.24	156.43	162.73	168.28	174.84	199.33	226.02	233.99	241.06	249.45	255.26	267.54
500	422.30	429.39	439.94	449.15	459.93	499.33	540.93	553.13	563.85	576.49	585.21	603.45

6 F distribution

Inverse $F^{-1}_{(\nu_1,\nu_2)}(p)$ of the cumulative distribution function (quantiles)



The table below contains the quantiles of the F distribution with ν_1 and ν_2 degrees of freedom. For $0 < p < 1$ the quantile is the value of x for which $\mathbb{P}\{X \leq x\} = p$, where $X \sim \mathsf{F}(\nu_1, \nu_2)$. Thus $x = F^{-1}_{(\nu_1,\nu_2)}(p)$.
The table only contains the quantiles for $p \geq \frac{1}{2}$. For $p < \frac{1}{2}$ quantiles can be obtained by exploiting the symmetry of the F distribution: $F^{-1}_{(\nu_1,\nu_2)}(p) = \dfrac{1}{F^{-1}_{(\nu_2,\nu_1)}(1-p)}$.

		p				
ν_1	ν_2	0.9	0.95	0.975	0.99	0.995
1	1	39.863	161.45	647.79	4052.2	16211
	2	8.5263	18.513	38.506	98.503	198.50
	3	5.5383	10.128	17.443	34.116	55.552
	4	4.5448	7.7086	12.218	21.198	31.333
	5	4.0604	6.6079	10.007	16.258	22.785
	6	3.7759	5.9874	8.8131	13.745	18.635
	7	3.5894	5.5914	8.0727	12.246	16.236
	8	3.4579	5.3177	7.5709	11.259	14.688
	9	3.3603	5.1174	7.2093	10.561	13.614
	10	3.2850	4.9646	6.9367	10.044	12.826
	11	3.2252	4.8443	6.7241	9.6460	12.226
	12	3.1765	4.7472	6.5538	9.3302	11.754
	13	3.1362	4.6672	6.4143	9.0738	11.374
	14	3.1022	4.6001	6.2979	8.8616	11.060
	15	3.0732	4.5431	6.1995	8.6831	10.798
	16	3.0481	4.4940	6.1151	8.5310	10.575
	17	3.0262	4.4513	6.0420	8.3997	10.384
	18	3.0070	4.4139	5.9781	8.2854	10.218
	19	2.9899	4.3807	5.9216	8.1849	10.073
	20	2.9747	4.3512	5.8715	8.0960	9.9439
	21	2.9610	4.3248	5.8266	8.0166	9.8295
	22	2.9486	4.3009	5.7863	7.9454	9.7271
	23	2.9374	4.2793	5.7498	7.8811	9.6348
	24	2.9271	4.2597	5.7166	7.8229	9.5513
	25	2.9177	4.2417	5.6864	7.7698	9.4753
	30	2.8807	4.1709	5.5675	7.5625	9.1797
	35	2.8547	4.1213	5.4848	7.4191	8.9763
	40	2.8354	4.0847	5.4239	7.3141	8.8279
	45	2.8205	4.0566	5.3773	7.2339	8.7148
	50	2.8087	4.0343	5.3403	7.1706	8.6258
	60	2.7911	4.0012	5.2856	7.0771	8.4946
	70	2.7786	3.9778	5.2470	7.0114	8.4027
	80	2.7693	3.9604	5.2184	6.9627	8.3346
	100	2.7564	3.9361	5.1786	6.8953	8.2406
	120	2.7478	3.9201	5.1523	6.8509	8.1788
	150	2.7393	3.9042	5.1263	6.8069	8.1177
	200	2.7308	3.8884	5.1004	6.7633	8.0572
	500	2.7156	3.8601	5.0543	6.6858	7.9498
	$+\infty$	2.7055	3.8415	5.0239	6.6349	7.8794
2	1	49.500	199.50	799.50	4999.5	19999
	2	9.0000	19.000	39.000	99.000	199.00
	3	5.4624	9.5521	16.044	30.817	49.799
	4	4.3246	6.9443	10.649	18.000	26.284
	5	3.7797	5.7861	8.4336	13.274	18.314
	6	3.4633	5.1433	7.2599	10.925	14.544
	7	3.2574	4.7374	6.5415	9.5466	12.404

→

ν_1	ν_2	0.9	0.95	0.975	0.99	0.995
2	8	3.1131	4.4590	6.0595	8.6491	11.042
	9	3.0065	4.2565	5.7147	8.0215	10.107
	10	2.9245	4.1028	5.4564	7.5594	9.4270
	11	2.8595	3.9823	5.2559	7.2057	8.9122
	12	2.8068	3.8853	5.0959	6.9266	8.5096
	13	2.7632	3.8056	4.9653	6.7010	8.1865
	14	2.7265	3.7389	4.8567	6.5149	7.9216
	15	2.6952	3.6823	4.7650	6.3589	7.7008
	16	2.6682	3.6337	4.6867	6.2262	7.5138
	17	2.6446	3.5915	4.6189	6.1121	7.3536
	18	2.6239	3.5546	4.5597	6.0129	7.2148
	19	2.6056	3.5219	4.5075	5.9259	7.0935
	20	2.5893	3.4928	4.4613	5.8489	6.9865
	21	2.5746	3.4668	4.4199	5.7804	6.8914
	22	2.5613	3.4434	4.3828	5.7190	6.8064
	23	2.5493	3.4221	4.3492	5.6637	6.7300
	24	2.5383	3.4028	4.3187	5.6136	6.6609
	25	2.5283	3.3852	4.2909	5.5680	6.5982
	30	2.4887	3.3158	4.1821	5.3903	6.3547
	35	2.4609	3.2674	4.1065	5.2679	6.1878
	40	2.4404	3.2317	4.0510	5.1785	6.0664
	45	2.4245	3.2043	4.0085	5.1103	5.9741
	50	2.4120	3.1826	3.9749	5.0566	5.9016
	60	2.3933	3.1504	3.9253	4.9774	5.7950
	70	2.3800	3.1277	3.8903	4.9219	5.7204
	80	2.3701	3.1108	3.8643	4.8807	5.6652
	100	2.3564	3.0873	3.8284	4.8239	5.5892
	120	2.3473	3.0718	3.8046	4.7865	5.5393
	150	2.3383	3.0564	3.7811	4.7495	5.4900
	200	2.3293	3.0411	3.7578	4.7129	5.4412
	500	2.3132	3.0138	3.7162	4.6478	5.3549
	$+\infty$	2.3026	2.9957	3.6889	4.6052	5.2983
3	1	53.593	215.71	864.16	5403.4	21615
	2	9.1618	19.164	39.165	99.166	199.17
	3	5.3908	9.2766	15.439	29.457	47.467
	4	4.1909	6.5914	9.9792	16.694	24.259
	5	3.6195	5.4095	7.7636	12.060	16.530
	6	3.2888	4.7571	6.5988	9.7795	12.917
	7	3.0741	4.3468	5.8898	8.4513	10.882
	8	2.9238	4.0662	5.4160	7.5910	9.5965
	9	2.8129	3.8625	5.0781	6.9919	8.7171
	10	2.7277	3.7083	4.8256	6.5523	8.0807
	11	2.6602	3.5874	4.6300	6.2167	7.6004
	12	2.6055	3.4903	4.4742	5.9525	7.2258
	13	2.5603	3.4105	4.3472	5.7394	6.9258
	14	2.5222	3.3439	4.2417	5.5639	6.6804

→

ν_1	ν_2	0.9	0.95	0.975	0.99	0.995
3	15	2.4898	3.2874	4.1528	5.4170	6.4760
	16	2.4618	3.2389	4.0768	5.2922	6.3034
	17	2.4374	3.1968	4.0112	5.1850	6.1556
	18	2.4160	3.1599	3.9539	5.0919	6.0278
	19	2.3970	3.1274	3.9034	5.0103	5.9161
	20	2.3801	3.0984	3.8587	4.9382	5.8177
	21	2.3649	3.0725	3.8188	4.8740	5.7304
	22	2.3512	3.0491	3.7829	4.8166	5.6524
	23	2.3387	3.0280	3.7505	4.7649	5.5823
	24	2.3274	3.0088	3.7211	4.7181	5.5190
	25	2.3170	2.9912	3.6943	4.6755	5.4615
	30	2.2761	2.9223	3.5894	4.5097	5.2388
	35	2.2474	2.8742	3.5166	4.3957	5.0865
	40	2.2261	2.8387	3.4633	4.3126	4.9758
	45	2.2097	2.8115	3.4224	4.2492	4.8918
	50	2.1967	2.7900	3.3902	4.1993	4.8259
	60	2.1774	2.7581	3.3425	4.1259	4.7290
	70	2.1637	2.7355	3.3090	4.0744	4.6613
	80	2.1535	2.7188	3.2841	4.0363	4.6113
	100	2.1394	2.6955	3.2496	3.9837	4.5424
	120	2.1300	2.6802	3.2269	3.9491	4.4972
	150	2.1207	2.6649	3.2044	3.9149	4.4525
	200	2.1114	2.6498	3.1820	3.8810	4.4084
	500	2.0948	2.6227	3.1423	3.8210	4.3304
	$+\infty$	2.0838	2.6049	3.1161	3.7816	4.2794
4	1	55.833	224.58	899.58	5624.6	22500
	2	9.2434	19.247	39.248	99.249	199.25
	3	5.3426	9.1172	15.101	28.710	46.195
	4	4.1072	6.3882	9.6045	15.977	23.155
	5	3.5202	5.1922	7.3879	11.392	15.556
	6	3.1808	4.5337	6.2272	9.1483	12.028
	7	2.9605	4.1203	5.5226	7.8466	10.050
	8	2.8064	3.8379	5.0526	7.0061	8.8051
	9	2.6927	3.6331	4.7181	6.4221	7.9559
	10	2.6053	3.4780	4.4683	5.9943	7.3428
	11	2.5362	3.3567	4.2751	5.6683	6.8809
	12	2.4801	3.2592	4.1212	5.4120	6.5211
	13	2.4337	3.1791	3.9959	5.2053	6.2335
	14	2.3947	3.1122	3.8919	5.0354	5.9984
	15	2.3614	3.0556	3.8043	4.8932	5.8029
	16	2.3327	3.0069	3.7294	4.7726	5.6378
	17	2.3077	2.9647	3.6648	4.6690	5.4967
	18	2.2858	2.9277	3.6083	4.5790	5.3746
	19	2.2663	2.8951	3.5587	4.5003	5.2681
	20	2.2489	2.8661	3.5147	4.4307	5.1743
	21	2.2333	2.8401	3.4754	4.3688	5.0911
	22	2.2193	2.8167	3.4401	4.3134	5.0168
	23	2.2065	2.7955	3.4083	4.2636	4.9500
	24	2.1949	2.7763	3.3794	4.2184	4.8898
	25	2.1842	2.7587	3.3530	4.1774	4.8351
	30	2.1422	2.6896	3.2499	4.0179	4.6234
	35	2.1128	2.6415	3.1785	3.9082	4.4788
	40	2.0909	2.6060	3.1261	3.8283	4.3738
	45	2.0742	2.5787	3.0860	3.7674	4.2941
	50	2.0608	2.5572	3.0544	3.7195	4.2316
	60	2.0410	2.5252	3.0077	3.6490	4.1399
	70	2.0269	2.5027	2.9748	3.5996	4.0758
	80	2.0165	2.4859	2.9504	3.5631	4.0285
	100	2.0019	2.4626	2.9166	3.5127	3.9634
	120	1.9923	2.4472	2.8943	3.4795	3.9207
	150	1.9827	2.4320	2.8722	3.4467	3.8785
	200	1.9732	2.4168	2.8503	3.4143	3.8368

→

ν_1	ν_2	0.9	0.95	0.975	0.99	0.995
4	500	1.9561	2.3898	2.8114	3.3569	3.7632
	$+\infty$	1.9449	2.3719	2.7858	3.3192	3.7151
5	1	57.240	230.16	921.85	5763.6	23056
	2	9.2926	19.296	39.298	99.299	199.30
	3	5.3092	9.0135	14.885	28.237	45.392
	4	4.0506	6.2561	9.3645	15.522	22.456
	5	3.4530	5.0503	7.1464	10.967	14.940
	6	3.1075	4.3874	5.9876	8.7459	11.464
	7	2.8833	3.9715	5.2852	7.4604	9.5221
	8	2.7264	3.6875	4.8173	6.6318	8.3018
	9	2.6106	3.4817	4.4844	6.0569	7.4712
	10	2.5216	3.3258	4.2361	5.6363	6.8724
	11	2.4512	3.2039	4.0440	5.3160	6.4217
	12	2.3940	3.1059	3.8911	5.0643	6.0711
	13	2.3467	3.0254	3.7667	4.8616	5.7910
	14	2.3069	2.9582	3.6634	4.6950	5.5623
	15	2.2730	2.9013	3.5764	4.5556	5.3721
	16	2.2438	2.8524	3.5021	4.4374	5.2117
	17	2.2183	2.8100	3.4379	4.3359	5.0746
	18	2.1958	2.7729	3.3820	4.2479	4.9560
	19	2.1760	2.7401	3.3327	4.1708	4.8526
	20	2.1582	2.7109	3.2891	4.1027	4.7616
	21	2.1423	2.6848	3.2501	4.0421	4.6809
	22	2.1279	2.6613	3.2151	3.9880	4.6088
	23	2.1149	2.6400	3.1835	3.9392	4.5441
	24	2.1030	2.6207	3.1548	3.8951	4.4857
	25	2.0922	2.6030	3.1287	3.8550	4.4327
	30	2.0492	2.5336	3.0265	3.6990	4.2276
	35	2.0191	2.4851	2.9557	3.5919	4.0876
	40	1.9968	2.4495	2.9037	3.5138	3.9860
	45	1.9796	2.4221	2.8640	3.4544	3.9090
	50	1.9660	2.4004	2.8327	3.4077	3.8486
	60	1.9457	2.3683	2.7863	3.3389	3.7599
	70	1.9313	2.3456	2.7537	3.2907	3.6980
	80	1.9206	2.3287	2.7295	3.2550	3.6524
	100	1.9057	2.3053	2.6961	3.2059	3.5895
	120	1.8959	2.2899	2.6740	3.1735	3.5482
	150	1.8861	2.2745	2.6521	3.1416	3.5075
	200	1.8763	2.2592	2.6304	3.1100	3.4674
	500	1.8588	2.2320	2.5919	3.0540	3.3963
	$+\infty$	1.8473	2.2141	2.5665	3.0173	3.3499
6	1	58.204	233.99	937.11	5859.0	23437
	2	9.3255	19.330	39.331	99.333	199.33
	3	5.2847	8.9406	14.735	27.911	44.838
	4	4.0097	6.1631	9.1973	15.207	21.975
	5	3.4045	4.9503	6.9777	10.672	14.513
	6	3.0546	4.2839	5.8198	8.4661	11.073
	7	2.8274	3.8660	5.1186	7.1914	9.1553
	8	2.6683	3.5806	4.6517	6.3707	7.9520
	9	2.5509	3.3738	4.3197	5.8018	7.1339
	10	2.4606	3.2172	4.0721	5.3858	6.5446
	11	2.3891	3.0946	3.8807	5.0692	6.1016
	12	2.3310	2.9961	3.7283	4.8206	5.7570
	13	2.2830	2.9153	3.6043	4.6204	5.4819
	14	2.2426	2.8477	3.5014	4.4558	5.2574
	15	2.2081	2.7905	3.4147	4.3183	5.0708
	16	2.1783	2.7413	3.3406	4.2016	4.9134
	17	2.1524	2.6987	3.2767	4.1015	4.7789
	18	2.1296	2.6613	3.2209	4.0146	4.6627
	19	2.1094	2.6283	3.1718	3.9386	4.5614
	20	2.0913	2.5990	3.1283	3.8714	4.4721
	21	2.0751	2.5727	3.0895	3.8117	4.3931

→

ν_1	ν_2	0.9	0.95	0.975	0.99	0.995
6	22	2.0605	2.5491	3.0546	3.7583	4.3225
	23	2.0472	2.5277	3.0232	3.7102	4.2591
	24	2.0351	2.5082	2.9946	3.6667	4.2019
	25	2.0241	2.4904	2.9685	3.6272	4.1500
	30	1.9803	2.4205	2.8667	3.4735	3.9492
	35	1.9496	2.3718	2.7961	3.3679	3.8123
	40	1.9269	2.3359	2.7444	3.2910	3.7129
	45	1.9094	2.3083	2.7048	3.2325	3.6376
	50	1.8954	2.2864	2.6736	3.1864	3.5785
	60	1.8747	2.2541	2.6274	3.1187	3.4918
	70	1.8600	2.2312	2.5949	3.0712	3.4313
	80	1.8491	2.2142	2.5708	3.0361	3.3867
	100	1.8339	2.1906	2.5374	2.9877	3.3252
	120	1.8238	2.1750	2.5154	2.9559	3.2849
	150	1.8138	2.1595	2.4936	2.9244	3.2452
	200	1.8038	2.1441	2.4720	2.8933	3.2059
	500	1.7859	2.1167	2.4335	2.8381	3.1366
	$+\infty$	1.7741	2.0986	2.4082	2.8020	3.0913
7	1	58.906	236.77	948.22	5928.4	23715
	2	9.3491	19.353	39.355	99.356	199.36
	3	5.2662	8.8867	14.624	27.672	44.434
	4	3.9790	6.0942	9.0741	14.976	21.622
	5	3.3679	4.8759	6.8531	10.456	14.200
	6	3.0145	4.2067	5.6955	8.2600	10.786
	7	2.7849	3.7870	4.9949	6.9928	8.8854
	8	2.6241	3.5005	4.5286	6.1776	7.6941
	9	2.5053	3.2927	4.1970	5.6129	6.8849
	10	2.4140	3.1355	3.9498	5.2001	6.3025
	11	2.3416	3.0123	3.7586	4.8861	5.8648
	12	2.2828	2.9134	3.6065	4.6395	5.5245
	13	2.2341	2.8321	3.4827	4.4410	5.2529
	14	2.1931	2.7642	3.3799	4.2779	5.0313
	15	2.1582	2.7066	3.2934	4.1415	4.8473
	16	2.1280	2.6572	3.2194	4.0259	4.6920
	17	2.1017	2.6143	3.1556	3.9267	4.5594
	18	2.0785	2.5767	3.0999	3.8406	4.4448
	19	2.0580	2.5435	3.0509	3.7653	4.3448
	20	2.0397	2.5140	3.0074	3.6987	4.2569
	21	2.0233	2.4876	2.9686	3.6396	4.1789
	22	2.0084	2.4638	2.9338	3.5867	4.1094
	23	1.9949	2.4422	2.9023	3.5390	4.0469
	24	1.9826	2.4226	2.8738	3.4959	3.9905
	25	1.9714	2.4047	2.8478	3.4568	3.9394
	30	1.9269	2.3343	2.7460	3.3045	3.7416
	35	1.8957	2.2852	2.6755	3.2000	3.6066
	40	1.8725	2.2490	2.6238	3.1238	3.5088
	45	1.8547	2.2212	2.5842	3.0658	3.4346
	50	1.8405	2.1992	2.5530	3.0202	3.3765
	60	1.8194	2.1665	2.5068	2.9530	3.2911
	70	1.8044	2.1435	2.4743	2.9060	3.2315
	80	1.7933	2.1263	2.4502	2.8713	3.1876
	100	1.7778	2.1025	2.4168	2.8233	3.1271
	120	1.7675	2.0868	2.3948	2.7918	3.0874
	150	1.7572	2.0711	2.3730	2.7606	3.0483
	200	1.7470	2.0556	2.3513	2.7298	3.0097
	500	1.7288	2.0279	2.3129	2.6751	2.9414
	$+\infty$	1.7167	2.0096	2.2875	2.6393	2.8968
8	1	59.439	238.88	956.66	5981.1	23925
	2	9.3668	19.371	39.373	99.374	199.37
	3	5.2517	8.8452	14.540	27.489	44.126
	4	3.9549	6.0410	8.9796	14.799	21.352
	5	3.3393	4.8183	6.7572	10.289	13.961

→

ν_1	ν_2	0.9	0.95	0.975	0.99	0.995
8	6	2.9830	4.1468	5.5996	8.1017	10.566
	7	2.7516	3.7257	4.8993	6.8400	8.6781
	8	2.5893	3.4381	4.4333	6.0289	7.4959
	9	2.4694	3.2296	4.1020	5.4671	6.6933
	10	2.3772	3.0717	3.8549	5.0567	6.1159
	11	2.3040	2.9480	3.6638	4.7445	5.6821
	12	2.2446	2.8486	3.5118	4.4994	5.3451
	13	2.1953	2.7669	3.3880	4.3021	5.0761
	14	2.1539	2.6987	3.2853	4.1399	4.8566
	15	2.1185	2.6408	3.1987	4.0045	4.6744
	16	2.0880	2.5911	3.1248	3.8896	4.5207
	17	2.0613	2.5480	3.0610	3.7910	4.3894
	18	2.0379	2.5102	3.0053	3.7054	4.2759
	19	2.0171	2.4768	2.9563	3.6305	4.1770
	20	1.9985	2.4471	2.9128	3.5644	4.0900
	21	1.9819	2.4205	2.8740	3.5056	4.0128
	22	1.9668	2.3965	2.8392	3.4530	3.9440
	23	1.9531	2.3748	2.8077	3.4057	3.8822
	24	1.9407	2.3551	2.7791	3.3629	3.8264
	25	1.9292	2.3371	2.7531	3.3239	3.7758
	30	1.8841	2.2662	2.6513	3.1726	3.5801
	35	1.8524	2.2167	2.5807	3.0687	3.4466
	40	1.8289	2.1802	2.5289	2.9930	3.3498
	45	1.8107	2.1521	2.4892	2.9353	3.2764
	50	1.7963	2.1299	2.4579	2.8900	3.2189
	60	1.7748	2.0970	2.4117	2.8233	3.1344
	70	1.7596	2.0737	2.3791	2.7765	3.0755
	80	1.7483	2.0564	2.3549	2.7420	3.0320
	100	1.7324	2.0323	2.3215	2.6943	2.9722
	120	1.7220	2.0164	2.2994	2.6629	2.9330
	150	1.7115	2.0006	2.2775	2.6319	2.8942
	200	1.7011	1.9849	2.2558	2.6012	2.8560
	500	1.6825	1.9569	2.2172	2.5469	2.7885
	$+\infty$	1.6702	1.9384	2.1918	2.5113	2.7444
9	1	59.858	240.54	963.28	6022.5	24091
	2	9.3805	19.385	39.387	99.388	199.39
	3	5.2400	8.8123	14.473	27.345	43.882
	4	3.9357	5.9988	8.9047	14.659	21.139
	5	3.3163	4.7725	6.6811	10.158	13.772
	6	2.9577	4.0990	5.5234	7.9761	10.391
	7	2.7247	3.6767	4.8232	6.7188	8.5138
	8	2.5612	3.3881	4.3572	5.9106	7.3386
	9	2.4403	3.1789	4.0260	5.3511	6.5411
	10	2.3473	3.0204	3.7790	4.9424	5.9676
	11	2.2735	2.8962	3.5879	4.6315	5.5368
	12	2.2135	2.7964	3.4358	4.3875	5.2021
	13	2.1638	2.7144	3.3120	4.1911	4.9351
	14	2.1220	2.6458	3.2093	4.0297	4.7173
	15	2.0862	2.5876	3.1227	3.8948	4.5364
	16	2.0553	2.5377	3.0488	3.7804	4.3838
	17	2.0284	2.4943	2.9849	3.6822	4.2535
	18	2.0047	2.4563	2.9291	3.5971	4.1410
	19	1.9836	2.4227	2.8801	3.5225	4.0428
	20	1.9649	2.3928	2.8365	3.4567	3.9564
	21	1.9480	2.3660	2.7977	3.3981	3.8799
	22	1.9327	2.3419	2.7628	3.3458	3.8116
	23	1.9189	2.3201	2.7313	3.2986	3.7502
	24	1.9063	2.3002	2.7027	3.2560	3.6949
	25	1.8947	2.2821	2.6766	3.2172	3.6447
	30	1.8490	2.2107	2.5746	3.0665	3.4505
	35	1.8168	2.1608	2.5039	2.9630	3.3180
	40	1.7929	2.1240	2.4519	2.8876	3.2220

→

ν_1	ν_2	0.9	0.95	0.975	0.99	0.995
9	45	1.7745	2.0958	2.4122	2.8301	3.1492
	50	1.7598	2.0734	2.3808	2.7850	3.0920
	60	1.7380	2.0401	2.3344	2.7185	3.0083
	70	1.7225	2.0166	2.3017	2.6719	2.9498
	80	1.7110	1.9991	2.2775	2.6374	2.9066
	100	1.6949	1.9748	2.2439	2.5898	2.8472
	120	1.6842	1.9588	2.2217	2.5586	2.8083
	150	1.6736	1.9428	2.1998	2.5277	2.7698
	200	1.6630	1.9269	2.1780	2.4971	2.7319
	500	1.6441	1.8986	2.1392	2.4429	2.6649
	$+\infty$	1.6315	1.8799	2.1136	2.4073	2.6210
10	1	60.195	241.88	968.63	6055.8	24224
	2	9.3916	19.396	39.398	99.399	199.40
	3	5.2304	8.7855	14.419	27.229	43.686
	4	3.9199	5.9644	8.8439	14.546	20.967
	5	3.2974	4.7351	6.6192	10.051	13.618
	6	2.9369	4.0600	5.4613	7.8741	10.250
	7	2.7025	3.6365	4.7611	6.6201	8.3803
	8	2.5380	3.3472	4.2951	5.8143	7.2106
	9	2.4163	3.1373	3.9639	5.2565	6.4172
	10	2.3226	2.9782	3.7168	4.8491	5.8467
	11	2.2482	2.8536	3.5257	4.5393	5.4183
	12	2.1878	2.7534	3.3736	4.2961	5.0855
	13	2.1376	2.6710	3.2497	4.1003	4.8199
	14	2.0954	2.6022	3.1469	3.9394	4.6034
	15	2.0593	2.5437	3.0602	3.8049	4.4235
	16	2.0281	2.4935	2.9862	3.6909	4.2719
	17	2.0009	2.4499	2.9222	3.5931	4.1424
	18	1.9770	2.4117	2.8664	3.5082	4.0305
	19	1.9557	2.3779	2.8172	3.4338	3.9329
	20	1.9367	2.3479	2.7737	3.3682	3.8470
	21	1.9197	2.3210	2.7348	3.3098	3.7709
	22	1.9043	2.2967	2.6998	3.2576	3.7030
	23	1.8903	2.2747	2.6682	3.2106	3.6420
	24	1.8775	2.2547	2.6396	3.1681	3.5870
	25	1.8658	2.2365	2.6135	3.1294	3.5370
	30	1.8195	2.1646	2.5112	2.9791	3.3440
	35	1.7869	2.1143	2.4403	2.8758	3.2123
	40	1.7627	2.0772	2.3882	2.8005	3.1167
	45	1.7440	2.0487	2.3483	2.7432	3.0443
	50	1.7291	2.0261	2.3168	2.6981	2.9875
	60	1.7070	1.9926	2.2702	2.6318	2.9042
	70	1.6913	1.9689	2.2374	2.5852	2.8460
	80	1.6796	1.9512	2.2130	2.5508	2.8031
	100	1.6632	1.9267	2.1793	2.5033	2.7440
	120	1.6524	1.9105	2.1570	2.4721	2.7052
	150	1.6416	1.8943	2.1349	2.4412	2.6669
	200	1.6308	1.8783	2.1130	2.4106	2.6292
	500	1.6115	1.8496	2.0740	2.3565	2.5625
	$+\infty$	1.5987	1.8307	2.0483	2.3209	2.5188
11	1	60.473	242.98	973.03	6083.3	24334
	2	9.4006	19.405	39.407	99.408	199.41
	3	5.2224	8.7633	14.374	27.133	43.524
	4	3.9067	5.9358	8.7935	14.452	20.824
	5	3.2816	4.7040	6.5678	9.9626	13.491
	6	2.9195	4.0274	5.4098	7.7896	10.133
	7	2.6839	3.6030	4.7095	6.5382	8.2697
	8	2.5186	3.3130	4.2434	5.7343	7.1045
	9	2.3961	3.1025	3.9121	5.1779	6.3142
	10	2.3018	2.9430	3.6649	4.7715	5.7462
	11	2.2269	2.8179	3.4737	4.4624	5.3197
	12	2.1660	2.7173	3.3215	4.2198	4.9884

→

ν_1	ν_2	0.9	0.95	0.975	0.99	0.995
11	13	2.1155	2.6347	3.1975	4.0245	4.7240
	14	2.0729	2.5655	3.0946	3.8640	4.5085
	15	2.0366	2.5068	3.0078	3.7299	4.3295
	16	2.0051	2.4564	2.9337	3.6162	4.1785
	17	1.9777	2.4126	2.8696	3.5185	4.0496
	18	1.9535	2.3742	2.8137	3.4338	3.9382
	19	1.9321	2.3402	2.7645	3.3596	3.8410
	20	1.9129	2.3100	2.7209	3.2941	3.7555
	21	1.8956	2.2829	2.6819	3.2359	3.6798
	22	1.8801	2.2585	2.6469	3.1837	3.6122
	23	1.8659	2.2364	2.6152	3.1368	3.5515
	24	1.8530	2.2163	2.5865	3.0944	3.4967
	25	1.8412	2.1979	2.5603	3.0558	3.4470
	30	1.7944	2.1256	2.4577	2.9057	3.2547
	35	1.7614	2.0750	2.3866	2.8026	3.1236
	40	1.7369	2.0376	2.3343	2.7274	3.0284
	45	1.7180	2.0088	2.2943	2.6701	2.9563
	50	1.7029	1.9861	2.2627	2.6250	2.8997
	60	1.6805	1.9522	2.2159	2.5587	2.8166
	70	1.6645	1.9283	2.1829	2.5122	2.7587
	80	1.6526	1.9105	2.1584	2.4777	2.7159
	100	1.6360	1.8857	2.1245	2.4302	2.6570
	120	1.6250	1.8693	2.1021	2.3990	2.6183
	150	1.6140	1.8530	2.0799	2.3681	2.5802
	200	1.6031	1.8368	2.0578	2.3375	2.5425
	500	1.5835	1.8078	2.0186	2.2833	2.4760
	$+\infty$	1.5705	1.7886	1.9927	2.2477	2.4324
12	1	60.705	243.91	976.71	6106.3	24426
	2	9.4081	19.413	39.415	99.416	199.42
	3	5.2156	8.7446	14.337	27.052	43.387
	4	3.8955	5.9117	8.7512	14.374	20.705
	5	3.2682	4.6777	6.5245	9.8883	13.384
	6	2.9047	3.9999	5.3662	7.7183	10.034
	7	2.6681	3.5747	4.6658	6.4691	8.1764
	8	2.5020	3.2839	4.1997	5.6667	7.0149
	9	2.3789	3.0729	3.8682	5.1114	6.2274
	10	2.2841	2.9130	3.6209	4.7059	5.6613
	11	2.2087	2.7876	3.4296	4.3974	5.2363
	12	2.1474	2.6866	3.2773	4.1553	4.9062
	13	2.0966	2.6037	3.1532	3.9603	4.6429
	14	2.0537	2.5342	3.0502	3.8001	4.4281
	15	2.0171	2.4753	2.9633	3.6662	4.2497
	16	1.9854	2.4247	2.8890	3.5527	4.0994
	17	1.9577	2.3807	2.8249	3.4552	3.9709
	18	1.9333	2.3421	2.7689	3.3706	3.8599
	19	1.9117	2.3080	2.7196	3.2965	3.7631
	20	1.8924	2.2776	2.6758	3.2311	3.6779
	21	1.8750	2.2504	2.6368	3.1730	3.6024
	22	1.8593	2.2258	2.6017	3.1209	3.5350
	23	1.8450	2.2036	2.5699	3.0740	3.4745
	24	1.8319	2.1834	2.5411	3.0316	3.4199
	25	1.8200	2.1649	2.5149	2.9931	3.3704
	30	1.7727	2.0921	2.4120	2.8431	3.1787
	35	1.7394	2.0411	2.3406	2.7400	3.0480
	40	1.7146	2.0035	2.2882	2.6648	2.9531
	45	1.6954	1.9745	2.2480	2.6076	2.8811
	50	1.6802	1.9515	2.2162	2.5625	2.8247
	60	1.6574	1.9174	2.1692	2.4961	2.7419
	70	1.6413	1.8932	2.1361	2.4496	2.6840
	80	1.6292	1.8753	2.1115	2.4151	2.6413
	100	1.6124	1.8503	2.0773	2.3676	2.5825
	120	1.6012	1.8337	2.0548	2.3363	2.5439

→

ν_1	ν_2	0.9	0.95	0.975	0.99	0.995
12	150	1.5901	1.8172	2.0325	2.3053	2.5059
	200	1.5789	1.8008	2.0103	2.2747	2.4683
	500	1.5590	1.7715	1.9708	2.2204	2.4018
	$+\infty$	1.5458	1.7522	1.9447	2.1847	2.3583
13	1	60.903	244.69	979.84	6125.9	24505
	2	9.4145	19.419	39.421	99.422	199.42
	3	5.2098	8.7287	14.304	26.983	43.271
	4	3.8859	5.8911	8.7150	14.307	20.603
	5	3.2567	4.6552	6.4876	9.8248	13.293
	6	2.8920	3.9764	5.3290	7.6575	9.9501
	7	2.6545	3.5503	4.6285	6.4100	8.0967
	8	2.4876	3.2590	4.1622	5.6089	6.9384
	9	2.3640	3.0475	3.8306	5.0545	6.1530
	10	2.2687	2.8872	3.5832	4.6496	5.5887
	11	2.1930	2.7614	3.3917	4.3416	5.1649
	12	2.1313	2.6602	3.2393	4.0999	4.8358
	13	2.0802	2.5769	3.1150	3.9052	4.5733
	14	2.0370	2.5073	3.0119	3.7452	4.3591
	15	2.0001	2.4481	2.9249	3.6115	4.1813
	16	1.9682	2.3973	2.8506	3.4981	4.0314
	17	1.9404	2.3531	2.7863	3.4007	3.9033
	18	1.9158	2.3143	2.7302	3.3162	3.7926
	19	1.8940	2.2800	2.6808	3.2422	3.6961
	20	1.8745	2.2495	2.6369	3.1769	3.6111
	21	1.8570	2.2222	2.5978	3.1187	3.5358
	22	1.8411	2.1975	2.5626	3.0667	3.4686
	23	1.8267	2.1752	2.5308	3.0199	3.4083
	24	1.8136	2.1548	2.5019	2.9775	3.3538
	25	1.8015	2.1362	2.4756	2.9389	3.3044
	30	1.7538	2.0630	2.3724	2.7890	3.1132
	35	1.7201	2.0117	2.3008	2.6859	2.9827
	40	1.6950	1.9738	2.2481	2.6107	2.8880
	45	1.6757	1.9446	2.2078	2.5534	2.8162
	50	1.6602	1.9214	2.1758	2.5083	2.7599
	60	1.6372	1.8870	2.1286	2.4419	2.6771
	70	1.6209	1.8627	2.0953	2.3953	2.6193
	80	1.6086	1.8445	2.0706	2.3608	2.5767
	100	1.5916	1.8193	2.0363	2.3132	2.5180
	120	1.5803	1.8026	2.0136	2.2818	2.4794
	150	1.5690	1.7859	1.9911	2.2508	2.4413
	200	1.5577	1.7694	1.9688	2.2201	2.4038
	500	1.5374	1.7398	1.9290	2.1656	2.3373
	$+\infty$	1.5240	1.7202	1.9027	2.1299	2.2938
14	1	61.073	245.36	982.53	6142.7	24572
	2	9.4200	19.424	39.427	99.428	199.43
	3	5.2047	8.7149	14.277	26.924	43.172
	4	3.8776	5.8733	8.6838	14.249	20.515
	5	3.2468	4.6358	6.4556	9.7700	13.215
	6	2.8809	3.9559	5.2968	7.6049	9.8774
	7	2.6426	3.5292	4.5961	6.3590	8.0279
	8	2.4752	3.2374	4.1297	5.5589	6.8721
	9	2.3510	3.0255	3.7980	5.0052	6.0887
	10	2.2553	2.8647	3.5504	4.6008	5.5257
	11	2.1792	2.7386	3.3588	4.2932	5.1031
	12	2.1173	2.6371	3.2062	4.0518	4.7748
	13	2.0658	2.5536	3.0819	3.8573	4.5129
	14	2.0224	2.4837	2.9786	3.6975	4.2993
	15	1.9853	2.4244	2.8915	3.5639	4.1219
	16	1.9532	2.3733	2.8170	3.4506	3.9723
	17	1.9252	2.3290	2.7526	3.3533	3.8445
	18	1.9004	2.2900	2.6964	3.2689	3.7341
	19	1.8785	2.2556	2.6469	3.1949	3.6378

→

ν_1	ν_2	0.9	0.95	0.975	0.99	0.995
14	20	1.8588	2.2250	2.6030	3.1296	3.5530
	21	1.8412	2.1975	2.5638	3.0715	3.4779
	22	1.8252	2.1727	2.5285	3.0195	3.4108
	23	1.8107	2.1502	2.4966	2.9727	3.3506
	24	1.7974	2.1298	2.4677	2.9303	3.2962
	25	1.7853	2.1111	2.4413	2.8917	3.2469
	30	1.7371	2.0374	2.3378	2.7418	3.0560
	35	1.7031	1.9858	2.2659	2.6387	2.9258
	40	1.6778	1.9476	2.2130	2.5634	2.8312
	45	1.6582	1.9182	2.1725	2.5060	2.7595
	50	1.6426	1.8949	2.1404	2.4609	2.7032
	60	1.6193	1.8602	2.0929	2.3943	2.6205
	70	1.6028	1.8357	2.0595	2.3477	2.5627
	80	1.5904	1.8174	2.0346	2.3131	2.5201
	100	1.5731	1.7919	2.0001	2.2654	2.4614
	120	1.5617	1.7750	1.9773	2.2339	2.4228
	150	1.5502	1.7582	1.9546	2.2028	2.3847
	200	1.5388	1.7415	1.9322	2.1721	2.3472
	500	1.5182	1.7116	1.8921	2.1174	2.2806
	$+\infty$	1.5046	1.6918	1.8656	2.0815	2.2371
15	1	61.220	245.95	984.87	6157.3	24630
	2	9.4247	19.429	39.431	99.433	199.43
	3	5.2003	8.7029	14.253	26.872	43.085
	4	3.8704	5.8578	8.6565	14.198	20.438
	5	3.2380	4.6188	6.4277	9.7222	13.146
	6	2.8712	3.9381	5.2687	7.5590	9.8140
	7	2.6322	3.5107	4.5678	6.3143	7.9678
	8	2.4642	3.2184	4.1012	5.5151	6.8143
	9	2.3396	3.0061	3.7694	4.9621	6.0325
	10	2.2435	2.8450	3.5217	4.5581	5.4707
	11	2.1671	2.7186	3.3299	4.2509	5.0489
	12	2.1049	2.6169	3.1772	4.0096	4.7213
	13	2.0532	2.5331	3.0527	3.8154	4.4600
	14	2.0095	2.4630	2.9493	3.6557	4.2468
	15	1.9722	2.4034	2.8621	3.5222	4.0698
	16	1.9399	2.3522	2.7875	3.4089	3.9205
	17	1.9117	2.3077	2.7230	3.3117	3.7929
	18	1.8868	2.2686	2.6667	3.2273	3.6827
	19	1.8647	2.2341	2.6171	3.1533	3.5866
	20	1.8449	2.2033	2.5731	3.0880	3.5020
	21	1.8271	2.1757	2.5338	3.0300	3.4270
	22	1.8111	2.1508	2.4984	2.9779	3.3600
	23	1.7964	2.1282	2.4665	2.9311	3.2999
	24	1.7831	2.1077	2.4374	2.8887	3.2456
	25	1.7708	2.0889	2.4110	2.8502	3.1963
	30	1.7223	2.0148	2.3072	2.7002	3.0057
	35	1.6880	1.9629	2.2350	2.5970	2.8756
	40	1.6624	1.9245	2.1819	2.5216	2.7811
	45	1.6426	1.8949	2.1412	2.4642	2.7094
	50	1.6269	1.8714	2.1090	2.4190	2.6531
	60	1.6034	1.8364	2.0613	2.3523	2.5705
	70	1.5866	1.8117	2.0277	2.3055	2.5127
	80	1.5741	1.7932	2.0026	2.2709	2.4700
	100	1.5566	1.7675	1.9679	2.2230	2.4113
	120	1.5450	1.7505	1.9450	2.1915	2.3727
	150	1.5334	1.7335	1.9222	2.1603	2.3346
	200	1.5218	1.7166	1.8996	2.1294	2.2970
	500	1.5010	1.6864	1.8592	2.0746	2.2304
	$+\infty$	1.4871	1.6664	1.8326	2.0385	2.1868
16	1	61.350	246.46	986.92	6170.1	24681
	2	9.4289	19.433	39.435	99.437	199.44
	3	5.1964	8.6923	14.232	26.827	43.008

→

ν_1	ν_2	0.9	0.95	0.975	0.99	0.995
16	4	3.8639	5.8441	8.6326	14.154	20.371
	5	3.2303	4.6038	6.4032	9.6802	13.086
	6	2.8626	3.9223	5.2439	7.5186	9.7582
	7	2.6230	3.4944	4.5428	6.2750	7.9148
	8	2.4545	3.2016	4.0761	5.4766	6.7633
	9	2.3295	2.9890	3.7441	4.9240	5.9829
	10	2.2330	2.8276	3.4963	4.5204	5.4221
	11	2.1563	2.7009	3.3044	4.2134	5.0011
	12	2.0938	2.5989	3.1515	3.9724	4.6741
	13	2.0419	2.5149	3.0269	3.7783	4.4132
	14	1.9981	2.4446	2.9234	3.6187	4.2005
	15	1.9605	2.3849	2.8360	3.4852	4.0237
	16	1.9281	2.3335	2.7614	3.3720	3.8747
	17	1.8997	2.2888	2.6968	3.2748	3.7473
	18	1.8747	2.2496	2.6404	3.1904	3.6373
	19	1.8524	2.2149	2.5907	3.1165	3.5412
	20	1.8325	2.1840	2.5465	3.0512	3.4568
	21	1.8146	2.1563	2.5071	2.9931	3.3818
	22	1.7984	2.1313	2.4717	2.9411	3.3150
	23	1.7837	2.1086	2.4396	2.8943	3.2549
	24	1.7703	2.0880	2.4105	2.8519	3.2007
	25	1.7579	2.0691	2.3840	2.8133	3.1515
	30	1.7090	1.9946	2.2799	2.6632	2.9611
	35	1.6744	1.9424	2.2075	2.5599	2.8310
	40	1.6486	1.9037	2.1542	2.4844	2.7365
	45	1.6287	1.8740	2.1133	2.4269	2.6648
	50	1.6128	1.8503	2.0810	2.3816	2.6086
	60	1.5890	1.8151	2.0330	2.3148	2.5259
	70	1.5721	1.7902	1.9992	2.2679	2.4681
	80	1.5594	1.7716	1.9741	2.2332	2.4254
	100	1.5418	1.7456	1.9391	2.1852	2.3666
	120	1.5300	1.7285	1.9161	2.1536	2.3280
	150	1.5182	1.7113	1.8931	2.1223	2.2898
	200	1.5065	1.6943	1.8704	2.0913	2.2521
	500	1.4854	1.6638	1.8297	2.0362	2.1854
	$+\infty$	1.4714	1.6435	1.8028	2.0000	2.1417
17	1	61.464	246.92	988.73	6181.4	24727
	2	9.4325	19.437	39.439	99.440	199.44
	3	5.1929	8.6829	14.213	26.787	42.941
	4	3.8582	5.8320	8.6113	14.115	20.311
	5	3.2234	4.5904	6.3814	9.6429	13.033
	6	2.8550	3.9083	5.2218	7.4827	9.7086
	7	2.6148	3.4799	4.5206	6.2401	7.8678
	8	2.4458	3.1867	4.0538	5.4423	6.7180
	9	2.3205	2.9737	3.7216	4.8902	5.9388
	10	2.2237	2.8120	3.4737	4.4869	5.3789
	11	2.1467	2.6851	3.2816	4.1801	4.9586
	12	2.0839	2.5828	3.1286	3.9392	4.6321
	13	2.0318	2.4987	3.0039	3.7452	4.3716
	14	1.9878	2.4282	2.9003	3.5857	4.1592
	15	1.9501	2.3683	2.8128	3.4523	3.9827
	16	1.9175	2.3167	2.7380	3.3391	3.8338
	17	1.8889	2.2719	2.6733	3.2419	3.7066
	18	1.8638	2.2325	2.6168	3.1575	3.5967
	19	1.8414	2.1977	2.5670	3.0836	3.5008
	20	1.8214	2.1667	2.5228	3.0183	3.4164
	21	1.8034	2.1389	2.4833	2.9602	3.3416
	22	1.7871	2.1138	2.4478	2.9082	3.2748
	23	1.7723	2.0910	2.4157	2.8613	3.2148
	24	1.7587	2.0703	2.3865	2.8189	3.1606
	25	1.7463	2.0513	2.3599	2.7803	3.1114
	30	1.6970	1.9765	2.2554	2.6301	2.9211

→

ν_1	ν_2	0.9	0.95	0.975	0.99	0.995
17	35	1.6622	1.9240	2.1828	2.5266	2.7911
	40	1.6362	1.8851	2.1293	2.4511	2.6966
	45	1.6161	1.8551	2.0883	2.3935	2.6249
	50	1.6000	1.8313	2.0558	2.3481	2.5686
	60	1.5760	1.7959	2.0076	2.2811	2.4859
	70	1.5589	1.7708	1.9736	2.2341	2.4281
	80	1.5461	1.7520	1.9483	2.1993	2.3854
	100	1.5283	1.7259	1.9132	2.1511	2.3265
	120	1.5164	1.7085	1.8900	2.1194	2.2878
	150	1.5045	1.6913	1.8669	2.0880	2.2496
	200	1.4926	1.6741	1.8440	2.0569	2.2118
	500	1.4712	1.6432	1.8030	2.0016	2.1449
	$+\infty$	1.4570	1.6228	1.7759	1.9652	2.1011
18	1	61.566	247.32	990.35	6191.5	24767
	2	9.4358	19.440	39.442	99.444	199.44
	3	5.1898	8.6745	14.196	26.751	42.880
	4	3.8531	5.8211	8.5924	14.080	20.258
	5	3.2172	4.5785	6.3619	9.6096	12.985
	6	2.8481	3.8957	5.2021	7.4507	9.6644
	7	2.6074	3.4669	4.5008	6.2089	7.8258
	8	2.4380	3.1733	4.0338	5.4116	6.6775
	9	2.3123	2.9600	3.7015	4.8599	5.8994
	10	2.2153	2.7980	3.4534	4.4569	5.3403
	11	2.1380	2.6709	3.2612	4.1503	4.9205
	12	2.0750	2.5684	3.1081	3.9095	4.5945
	13	2.0227	2.4841	2.9832	3.7156	4.3344
	14	1.9785	2.4134	2.8795	3.5561	4.1221
	15	1.9407	2.3533	2.7919	3.4228	3.9459
	16	1.9079	2.3016	2.7170	3.3096	3.7972
	17	1.8792	2.2567	2.6522	3.2124	3.6701
	18	1.8539	2.2172	2.5956	3.1280	3.5603
	19	1.8314	2.1823	2.5457	3.0541	3.4645
	20	1.8113	2.1511	2.5014	2.9887	3.3802
	21	1.7932	2.1232	2.4618	2.9306	3.3054
	22	1.7768	2.0980	2.4262	2.8786	3.2387
	23	1.7619	2.0751	2.3940	2.8317	3.1787
	24	1.7483	2.0543	2.3648	2.7892	3.1246
	25	1.7358	2.0353	2.3381	2.7506	3.0754
	30	1.6862	1.9601	2.2334	2.6003	2.8852
	35	1.6511	1.9073	2.1605	2.4967	2.7551
	40	1.6249	1.8682	2.1068	2.4210	2.6607
	45	1.6046	1.8381	2.0656	2.3633	2.5889
	50	1.5884	1.8141	2.0330	2.3178	2.5326
	60	1.5642	1.7784	1.9846	2.2507	2.4498
	70	1.5470	1.7531	1.9504	2.2036	2.3919
	80	1.5340	1.7342	1.9250	2.1686	2.3492
	100	1.5160	1.7079	1.8897	2.1203	2.2902
	120	1.5039	1.6904	1.8663	2.0885	2.2514
	150	1.4919	1.6730	1.8431	2.0570	2.2131
	200	1.4799	1.6556	1.8200	2.0257	2.1753
	500	1.4583	1.6245	1.7787	1.9702	2.1082
	$+\infty$	1.4439	1.6038	1.7515	1.9336	2.0642
19	1	61.658	247.69	991.80	6200.6	24803
	2	9.4387	19.443	39.445	99.447	199.45
	3	5.1870	8.6670	14.181	26.719	42.826
	4	3.8485	5.8114	8.5753	14.048	20.210
	5	3.2117	4.5678	6.3444	9.5797	12.942
	6	2.8419	3.8844	5.1844	7.4219	9.6247
	7	2.6008	3.4551	4.4829	6.1808	7.7881
	8	2.4310	3.1613	4.0158	5.3840	6.6411
	9	2.3050	2.9477	3.6833	4.8327	5.8639
	10	2.2077	2.7854	3.4351	4.4299	5.3055

→

ν_1	ν_2	0.9	0.95	0.975	0.99	0.995
19	11	2.1302	2.6581	3.2428	4.1234	4.8863
	12	2.0670	2.5554	3.0896	3.8827	4.5606
	13	2.0145	2.4709	2.9646	3.6888	4.3008
	14	1.9701	2.4000	2.8607	3.5294	4.0888
	15	1.9321	2.3398	2.7730	3.3961	3.9127
	16	1.8992	2.2880	2.6980	3.2829	3.7641
	17	1.8704	2.2429	2.6331	3.1857	3.6372
	18	1.8450	2.2033	2.5764	3.1013	3.5275
	19	1.8224	2.1683	2.5265	3.0274	3.4318
	20	1.8022	2.1370	2.4821	2.9620	3.3475
	21	1.7840	2.1090	2.4424	2.9039	3.2728
	22	1.7675	2.0837	2.4067	2.8518	3.2060
	23	1.7525	2.0608	2.3745	2.8049	3.1461
	24	1.7388	2.0399	2.3452	2.7624	3.0920
	25	1.7263	2.0207	2.3184	2.7238	3.0429
	30	1.6763	1.9452	2.2134	2.5732	2.8526
	35	1.6410	1.8922	2.1403	2.4695	2.7226
	40	1.6146	1.8529	2.0864	2.3937	2.6281
	45	1.5941	1.8226	2.0450	2.3359	2.5563
	50	1.5778	1.7985	2.0122	2.2903	2.4999
	60	1.5534	1.7625	1.9636	2.2230	2.4171
	70	1.5360	1.7371	1.9293	2.1758	2.3591
	80	1.5230	1.7180	1.9037	2.1408	2.3163
	100	1.5047	1.6915	1.8682	2.0923	2.2572
	120	1.4926	1.6739	1.8447	2.0604	2.2183
	150	1.4804	1.6563	1.8213	2.0287	2.1800
	200	1.4683	1.6388	1.7981	1.9973	2.1420
	500	1.4464	1.6074	1.7566	1.9415	2.0748
	$+\infty$	1.4318	1.5865	1.7291	1.9048	2.0306
20	1	61.740	248.01	993.10	6208.7	24836
	2	9.4413	19.446	39.448	99.449	199.45
	3	5.1845	8.6602	14.167	26.690	42.778
	4	3.8443	5.8025	8.5599	14.020	20.167
	5	3.2067	4.5581	6.3286	9.5526	12.903
	6	2.8363	3.8742	5.1684	7.3958	9.5888
	7	2.5947	3.4445	4.4667	6.1554	7.7540
	8	2.4246	3.1503	3.9995	5.3591	6.6082
	9	2.2983	2.9365	3.6669	4.8080	5.8318
	10	2.2007	2.7740	3.4185	4.4054	5.2740
	11	2.1230	2.6464	3.2261	4.0990	4.8552
	12	2.0597	2.5436	3.0728	3.8584	4.5299
	13	2.0070	2.4589	2.9477	3.6646	4.2703
	14	1.9625	2.3879	2.8437	3.5052	4.0585
	15	1.9243	2.3275	2.7559	3.3719	3.8826
	16	1.8913	2.2756	2.6808	3.2587	3.7342
	17	1.8624	2.2304	2.6158	3.1615	3.6073
	18	1.8368	2.1906	2.5590	3.0771	3.4977
	19	1.8142	2.1555	2.5089	3.0031	3.4020
	20	1.7938	2.1242	2.4645	2.9377	3.3178
	21	1.7756	2.0960	2.4247	2.8796	3.2431
	22	1.7590	2.0707	2.3890	2.8274	3.1764
	23	1.7439	2.0476	2.3567	2.7805	3.1165
	24	1.7302	2.0267	2.3273	2.7380	3.0624
	25	1.7175	2.0075	2.3005	2.6993	3.0133
	30	1.6673	1.9317	2.1952	2.5487	2.8230
	35	1.6317	1.8784	2.1218	2.4448	2.6930
	40	1.6052	1.8389	2.0677	2.3689	2.5984
	45	1.5846	1.8084	2.0262	2.3109	2.5266
	50	1.5681	1.7841	1.9933	2.2652	2.4702
	60	1.5435	1.7480	1.9445	2.1978	2.3872
	70	1.5259	1.7223	1.9100	2.1504	2.3291
	80	1.5128	1.7032	1.8843	2.1153	2.2862

→

ν_1	ν_2	0.9	0.95	0.975	0.99	0.995
20	100	1.4943	1.6764	1.8486	2.0666	2.2270
	120	1.4821	1.6587	1.8249	2.0346	2.1881
	150	1.4698	1.6410	1.8014	2.0028	2.1496
	200	1.4575	1.6233	1.7780	1.9713	2.1116
	500	1.4354	1.5916	1.7362	1.9152	2.0441
	$+\infty$	1.4206	1.5705	1.7085	1.8783	1.9998
21	1	61.815	248.31	994.29	6216.1	24866
	2	9.4437	19.448	39.450	99.452	199.45
	3	5.1822	8.6540	14.155	26.664	42.733
	4	3.8405	5.7945	8.5460	13.994	20.128
	5	3.2021	4.5493	6.3142	9.5281	12.868
	6	2.8312	3.8649	5.1538	7.3722	9.5562
	7	2.5892	3.4349	4.4520	6.1324	7.7230
	8	2.4188	3.1404	3.9846	5.3364	6.5783
	9	2.2922	2.9263	3.6520	4.7856	5.8027
	10	2.1944	2.7636	3.4035	4.3831	5.2454
	11	2.1165	2.6358	3.2109	4.0769	4.8270
	12	2.0530	2.5328	3.0575	3.8363	4.5020
	13	2.0001	2.4479	2.9322	3.6425	4.2426
	14	1.9555	2.3768	2.8282	3.4832	4.0310
	15	1.9172	2.3163	2.7403	3.3498	3.8552
	16	1.8840	2.2642	2.6651	3.2367	3.7069
	17	1.8550	2.2189	2.6000	3.1394	3.5801
	18	1.8294	2.1791	2.5431	3.0550	3.4705
	19	1.8066	2.1438	2.4930	2.9810	3.3749
	20	1.7862	2.1124	2.4484	2.9156	3.2907
	21	1.7678	2.0842	2.4086	2.8574	3.2160
	22	1.7512	2.0587	2.3728	2.8052	3.1494
	23	1.7360	2.0356	2.3404	2.7583	3.0895
	24	1.7222	2.0146	2.3109	2.7157	3.0354
	25	1.7095	1.9953	2.2840	2.6770	2.9862
	30	1.6590	1.9192	2.1785	2.5262	2.7960
	35	1.6232	1.8657	2.1049	2.4222	2.6659
	40	1.5965	1.8260	2.0506	2.3461	2.5713
	45	1.5757	1.7953	2.0089	2.2880	2.4994
	50	1.5592	1.7709	1.9759	2.2423	2.4429
	60	1.5343	1.7346	1.9269	2.1747	2.3598
	70	1.5166	1.7088	1.8922	2.1271	2.3017
	80	1.5034	1.6895	1.8664	2.0919	2.2587
	100	1.4848	1.6626	1.8305	2.0431	2.1993
	120	1.4724	1.6447	1.8067	2.0109	2.1603
	150	1.4600	1.6268	1.7830	1.9790	2.1218
	200	1.4476	1.6090	1.7595	1.9474	2.0836
	500	1.4252	1.5770	1.7174	1.8910	2.0159
	$+\infty$	1.4102	1.5557	1.6895	1.8539	1.9715
22	1	61.883	248.58	995.36	6222.8	24892
	2	9.4458	19.450	39.452	99.454	199.45
	3	5.1801	8.6484	14.144	26.640	42.693
	4	3.8371	5.7872	8.5332	13.970	20.093
	5	3.1979	4.5413	6.3011	9.5058	12.836
	6	2.8266	3.8564	5.1406	7.3506	9.5264
	7	2.5842	3.4260	4.4386	6.1113	7.6947
	8	2.4135	3.1313	3.9711	5.3157	6.5510
	9	2.2867	2.9169	3.6383	4.7651	5.7760
	10	2.1887	2.7541	3.3897	4.3628	5.2192
	11	2.1106	2.6261	3.1970	4.0566	4.8012
	12	2.0469	2.5229	3.0434	3.8161	4.4765
	13	1.9939	2.4379	2.9181	3.6224	4.2173
	14	1.9490	2.3667	2.8139	3.4630	4.0058
	15	1.9106	2.3060	2.7260	3.3297	3.8301
	16	1.8774	2.2538	2.6507	3.2165	3.6819
	17	1.8482	2.2084	2.5855	3.1192	3.5552

→

ν_1	ν_2	0.9	0.95	0.975	0.99	0.995
22	18	1.8225	2.1685	2.5285	3.0348	3.4456
	19	1.7997	2.1331	2.4783	2.9607	3.3500
	20	1.7792	2.1016	2.4337	2.8953	3.2659
	21	1.7607	2.0733	2.3938	2.8370	3.1912
	22	1.7440	2.0478	2.3579	2.7849	3.1246
	23	1.7288	2.0246	2.3254	2.7378	3.0647
	24	1.7149	2.0035	2.2959	2.6953	3.0106
	25	1.7021	1.9842	2.2690	2.6565	2.9615
	30	1.6514	1.9077	2.1631	2.5055	2.7712
	35	1.6154	1.8540	2.0893	2.4014	2.6410
	40	1.5884	1.8141	2.0349	2.3252	2.5463
	45	1.5676	1.7833	1.9930	2.2670	2.4744
	50	1.5509	1.7588	1.9599	2.2211	2.4178
	60	1.5259	1.7222	1.9106	2.1533	2.3346
	70	1.5080	1.6962	1.8758	2.1057	2.2764
	80	1.4947	1.6768	1.8499	2.0703	2.2333
	100	1.4759	1.6497	1.8138	2.0214	2.1738
	120	1.4634	1.6317	1.7899	1.9891	2.1347
	150	1.4509	1.6137	1.7661	1.9570	2.0961
	200	1.4383	1.5958	1.7424	1.9252	2.0578
	500	1.4157	1.5635	1.7000	1.8686	1.9899
	$+\infty$	1.4006	1.5420	1.6719	1.8313	1.9453
23	1	61.945	248.83	996.35	6229.0	24917
	2	9.4478	19.452	39.454	99.456	199.46
	3	5.1781	8.6432	14.134	26.618	42.656
	4	3.8339	5.7805	8.5216	13.949	20.060
	5	3.1941	4.5339	6.2891	9.4853	12.807
	6	2.8223	3.8486	5.1284	7.3309	9.4992
	7	2.5796	3.4179	4.4263	6.0921	7.6688
	8	2.4086	3.1229	3.9587	5.2967	6.5260
	9	2.2816	2.9084	3.6257	4.7463	5.7516
	10	2.1833	2.7453	3.3770	4.3441	5.1953
	11	2.1051	2.6172	3.1843	4.0380	4.7775
	12	2.0412	2.5139	3.0306	3.7976	4.4530
	13	1.9881	2.4287	2.9052	3.6038	4.1940
	14	1.9431	2.3573	2.8009	3.4445	3.9827
	15	1.9046	2.2966	2.7128	3.3111	3.8071
	16	1.8712	2.2443	2.6374	3.1979	3.6589
	17	1.8420	2.1987	2.5721	3.1006	3.5323
	18	1.8162	2.1587	2.5151	3.0161	3.4228
	19	1.7932	2.1233	2.4648	2.9421	3.3272
	20	1.7727	2.0917	2.4201	2.8766	3.2431
	21	1.7541	2.0633	2.3801	2.8183	3.1684
	22	1.7374	2.0377	2.3442	2.7661	3.1018
	23	1.7221	2.0144	2.3116	2.7191	3.0419
	24	1.7081	1.9932	2.2821	2.6765	2.9878
	25	1.6953	1.9738	2.2551	2.6377	2.9387
	30	1.6443	1.8972	2.1490	2.4865	2.7483
	35	1.6081	1.8432	2.0750	2.3822	2.6181
	40	1.5810	1.8031	2.0203	2.3059	2.5233
	45	1.5600	1.7722	1.9784	2.2476	2.4513
	50	1.5432	1.7475	1.9451	2.2016	2.3947
	60	1.5180	1.7108	1.8956	2.1336	2.3114
	70	1.5000	1.6846	1.8606	2.0858	2.2530
	80	1.4866	1.6651	1.8346	2.0504	2.2098
	100	1.4677	1.6378	1.7983	2.0012	2.1502
	120	1.4550	1.6197	1.7743	1.9688	2.1110
	150	1.4424	1.6015	1.7503	1.9367	2.0723
	200	1.4297	1.5834	1.7265	1.9047	2.0339
	500	1.4069	1.5509	1.6838	1.8479	1.9657
	$+\infty$	1.3916	1.5292	1.6555	1.8104	1.9209
24	1	62.002	249.05	997.25	6234.6	24940

→

ν_1	ν_2	0.9	0.95	0.975	0.99	0.995
24	2	9.4496	19.454	39.456	99.458	199.46
	3	5.1764	8.6385	14.124	26.598	42.622
	4	3.8310	5.7744	8.5109	13.929	20.030
	5	3.1905	4.5272	6.2780	9.4665	12.780
	6	2.8183	3.8415	5.1172	7.3127	9.4742
	7	2.5753	3.4105	4.4150	6.0743	7.6450
	8	2.4041	3.1152	3.9472	5.2793	6.5029
	9	2.2768	2.9005	3.6142	4.7290	5.7292
	10	2.1784	2.7372	3.3654	4.3269	5.1732
	11	2.1000	2.6090	3.1725	4.0209	4.7557
	12	2.0360	2.5055	3.0187	3.7805	4.4314
	13	1.9827	2.4202	2.8932	3.5868	4.1726
	14	1.9377	2.3487	2.7888	3.4274	3.9614
	15	1.8990	2.2878	2.7006	3.2940	3.7859
	16	1.8656	2.2354	2.6252	3.1808	3.6378
	17	1.8362	2.1898	2.5598	3.0835	3.5112
	18	1.8103	2.1497	2.5027	2.9990	3.4017
	19	1.7873	2.1141	2.4523	2.9249	3.3062
	20	1.7667	2.0825	2.4076	2.8594	3.2220
	21	1.7481	2.0540	2.3675	2.8010	3.1474
	22	1.7312	2.0283	2.3315	2.7488	3.0807
	23	1.7159	2.0050	2.2989	2.7017	3.0208
	24	1.7019	1.9838	2.2693	2.6591	2.9667
	25	1.6890	1.9643	2.2422	2.6203	2.9176
	30	1.6377	1.8874	2.1359	2.4689	2.7272
	35	1.6013	1.8332	2.0617	2.3645	2.5969
	40	1.5741	1.7929	2.0069	2.2880	2.5020
	45	1.5530	1.7618	1.9647	2.2296	2.4299
	50	1.5361	1.7371	1.9313	2.1835	2.3732
	60	1.5107	1.7001	1.8817	2.1154	2.2898
	70	1.4926	1.6738	1.8466	2.0674	2.2313
	80	1.4790	1.6542	1.8204	2.0318	2.1881
	100	1.4600	1.6267	1.7839	1.9826	2.1283
	120	1.4472	1.6084	1.7597	1.9500	2.0890
	150	1.4345	1.5902	1.7356	1.9177	2.0501
	200	1.4217	1.5720	1.7117	1.8857	2.0116
	500	1.3986	1.5392	1.6687	1.8285	1.9432
	$+\infty$	1.3832	1.5173	1.6402	1.7908	1.8983
25	1	62.055	249.26	998.08	6239.8	24960
	2	9.4513	19.456	39.458	99.459	199.46
	3	5.1747	8.6341	14.115	26.579	42.591
	4	3.8283	5.7687	8.5010	13.911	20.002
	5	3.1873	4.5209	6.2679	9.4491	12.755
	6	2.8147	3.8348	5.1069	7.2960	9.4511
	7	2.5714	3.4036	4.4045	6.0580	7.6230
	8	2.3999	3.1081	3.9367	5.2631	6.4817
	9	2.2725	2.8932	3.6035	4.7130	5.7084
	10	2.1739	2.7298	3.3546	4.3111	5.1528
	11	2.0953	2.6014	3.1616	4.0051	4.7356
	12	2.0312	2.4977	3.0077	3.7647	4.4115
	13	1.9778	2.4123	2.8821	3.5710	4.1528
	14	1.9326	2.3407	2.7777	3.4116	3.9417
	15	1.8939	2.2797	2.6894	3.2782	3.7662
	16	1.8603	2.2272	2.6138	3.1650	3.6182
	17	1.8309	2.1815	2.5484	3.0676	3.4916
	18	1.8049	2.1413	2.4912	2.9831	3.3822
	19	1.7818	2.1057	2.4408	2.9089	3.2867
	20	1.7611	2.0739	2.3959	2.8434	3.2025
	21	1.7424	2.0454	2.3558	2.7850	3.1279
	22	1.7255	2.0196	2.3198	2.7328	3.0613
	23	1.7101	1.9963	2.2871	2.6856	3.0014
	24	1.6960	1.9750	2.2574	2.6430	2.9472

→

ν_1	ν_2	0.9	0.95	0.975	0.99	0.995
25	25	1.6831	1.9554	2.2303	2.6041	2.8981
	30	1.6316	1.8782	2.1237	2.4526	2.7076
	35	1.5950	1.8239	2.0493	2.3480	2.5772
	40	1.5677	1.7835	1.9943	2.2714	2.4823
	45	1.5464	1.7522	1.9521	2.2129	2.4101
	50	1.5294	1.7273	1.9186	2.1667	2.3533
	60	1.5039	1.6902	1.8687	2.0984	2.2697
	70	1.4857	1.6638	1.8334	2.0503	2.2112
	80	1.4720	1.6440	1.8071	2.0146	2.1678
	100	1.4528	1.6163	1.7705	1.9652	2.1080
	120	1.4399	1.5980	1.7462	1.9325	2.0686
	150	1.4271	1.5796	1.7220	1.9001	2.0295
	200	1.4142	1.5612	1.6978	1.8679	1.9909
	500	1.3909	1.5282	1.6546	1.8105	1.9223
	$+\infty$	1.3753	1.5061	1.6259	1.7726	1.8771
30	1	62.265	250.10	1001.4	6260.6	25044
	2	9.4579	19.462	39.465	99.466	199.47
	3	5.1681	8.6166	14.081	26.505	42.466
	4	3.8174	5.7459	8.4613	13.838	19.892
	5	3.1741	4.4957	6.2269	9.3793	12.656
	6	2.8000	3.8082	5.0652	7.2285	9.3582
	7	2.5555	3.3758	4.3624	5.9920	7.5345
	8	2.3830	3.0794	3.8940	5.1981	6.3961
	9	2.2547	2.8637	3.5604	4.6486	5.6248
	10	2.1554	2.6996	3.3110	4.2469	5.0706
	11	2.0762	2.5705	3.1176	3.9411	4.6543
	12	2.0115	2.4663	2.9633	3.7008	4.3309
	13	1.9576	2.3803	2.8372	3.5070	4.0727
	14	1.9119	2.3082	2.7324	3.3476	3.8619
	15	1.8728	2.2468	2.6437	3.2141	3.6867
	16	1.8388	2.1938	2.5678	3.1007	3.5389
	17	1.8090	2.1477	2.5020	3.0032	3.4124
	18	1.7827	2.1071	2.4445	2.9185	3.3030
	19	1.7592	2.0712	2.3937	2.8442	3.2075
	20	1.7382	2.0391	2.3486	2.7785	3.1234
	21	1.7193	2.0102	2.3082	2.7200	3.0488
	22	1.7021	1.9842	2.2718	2.6675	2.9821
	23	1.6864	1.9605	2.2389	2.6202	2.9221
	24	1.6721	1.9390	2.2090	2.5773	2.8679
	25	1.6589	1.9192	2.1816	2.5383	2.8187
	30	1.6065	1.8409	2.0739	2.3860	2.6278
	35	1.5691	1.7856	1.9986	2.2806	2.4969
	40	1.5411	1.7444	1.9429	2.2034	2.4015
	45	1.5193	1.7126	1.9000	2.1443	2.3288
	50	1.5018	1.6872	1.8659	2.0976	2.2717
	60	1.4755	1.6491	1.8152	2.0285	2.1874
	70	1.4567	1.6220	1.7792	1.9797	2.1283
	80	1.4426	1.6017	1.7523	1.9435	2.0845
	100	1.4227	1.5733	1.7148	1.8933	2.0239
	120	1.4094	1.5543	1.6899	1.8600	1.9840
	150	1.3960	1.5354	1.6651	1.8270	1.9444
	200	1.3826	1.5164	1.6403	1.7941	1.9051
	500	1.3582	1.4821	1.5957	1.7353	1.8352
	$+\infty$	1.3419	1.4591	1.5660	1.6964	1.7891
35	1	62.416	250.69	1003.8	6275.6	25103
	2	9.4627	19.467	39.469	99.471	199.47
	3	5.1633	8.6039	14.055	26.451	42.376
	4	3.8096	5.7294	8.4327	13.785	19.812
	5	3.1645	4.4775	6.1973	9.3291	12.584
	6	2.7893	3.7889	5.0352	7.1799	9.2913
	7	2.5439	3.3557	4.3319	5.9444	7.4707
	8	2.3707	3.0586	3.8632	5.1512	6.3343

→

ν_1	ν_2	0.9	0.95	0.975	0.99	0.995
35	9	2.2418	2.8422	3.5292	4.6020	5.5643
	10	2.1420	2.6776	3.2794	4.2005	5.0110
	11	2.0623	2.5480	3.0856	3.8948	4.5955
	12	1.9971	2.4433	2.9309	3.6544	4.2725
	13	1.9428	2.3570	2.8046	3.4606	4.0146
	14	1.8968	2.2845	2.6994	3.3010	3.8040
	15	1.8573	2.2227	2.6104	3.1674	3.6289
	16	1.8230	2.1694	2.5342	3.0539	3.4811
	17	1.7929	2.1229	2.4681	2.9563	3.3547
	18	1.7663	2.0821	2.4103	2.8714	3.2453
	19	1.7426	2.0458	2.3593	2.7969	3.1498
	20	1.7213	2.0135	2.3139	2.7310	3.0656
	21	1.7021	1.9844	2.2733	2.6723	2.9909
	22	1.6847	1.9581	2.2366	2.6197	2.9241
	23	1.6689	1.9342	2.2035	2.5722	2.8641
	24	1.6544	1.9124	2.1733	2.5292	2.8098
	25	1.6410	1.8924	2.1458	2.4900	2.7605
	30	1.5877	1.8132	2.0372	2.3369	2.5691
	35	1.5497	1.7571	1.9611	2.2309	2.4377
	40	1.5211	1.7154	1.9047	2.1531	2.3418
	45	1.4989	1.6830	1.8613	2.0934	2.2687
	50	1.4810	1.6571	1.8267	2.0463	2.2112
	60	1.4541	1.6183	1.7752	1.9764	2.1263
	70	1.4348	1.5906	1.7386	1.9271	2.0666
	80	1.4203	1.5699	1.7112	1.8904	2.0223
	100	1.3998	1.5407	1.6729	1.8393	1.9610
	120	1.3861	1.5213	1.6475	1.8055	1.9205
	150	1.3723	1.5018	1.6220	1.7719	1.8803
	200	1.3583	1.4822	1.5966	1.7383	1.8404
	500	1.3331	1.4467	1.5508	1.6783	1.7692
	$+\infty$	1.3160	1.4229	1.5201	1.6383	1.7221
40	1	62.529	251.14	1005.6	6286.8	25148
	2	9.4662	19.471	39.473	99.474	199.47
	3	5.1597	8.5944	14.037	26.411	42.308
	4	3.8036	5.7170	8.4111	13.745	19.752
	5	3.1573	4.4638	6.1750	9.2912	12.530
	6	2.7812	3.7743	5.0125	7.1432	9.2408
	7	2.5351	3.3404	4.3089	5.9084	7.4224
	8	2.3614	3.0428	3.8398	5.1156	6.2875
	9	2.2320	2.8259	3.5055	4.5666	5.5186
	10	2.1317	2.6609	3.2554	4.1653	4.9659
	11	2.0516	2.5309	3.0613	3.8596	4.5508
	12	1.9861	2.4259	2.9063	3.6192	4.2282
	13	1.9315	2.3392	2.7797	3.4253	3.9704
	14	1.8852	2.2664	2.6742	3.2656	3.7600
	15	1.8454	2.2043	2.5850	3.1319	3.5850
	16	1.8108	2.1507	2.5085	3.0182	3.4372
	17	1.7805	2.1040	2.4422	2.9205	3.3108
	18	1.7537	2.0629	2.3842	2.8354	3.2014
	19	1.7298	2.0264	2.3329	2.7608	3.1058
	20	1.7083	1.9938	2.2873	2.6947	3.0215
	21	1.6890	1.9645	2.2465	2.6359	2.9467
	22	1.6714	1.9380	2.2097	2.5831	2.8799
	23	1.6554	1.9139	2.1763	2.5355	2.8197
	24	1.6407	1.8920	2.1460	2.4923	2.7654
	25	1.6272	1.8718	2.1183	2.4530	2.7160
	30	1.5732	1.7918	2.0089	2.2992	2.5241
	35	1.5346	1.7351	1.9321	2.1926	2.3922
	40	1.5056	1.6928	1.8752	2.1142	2.2958
	45	1.4830	1.6599	1.8313	2.0542	2.2224
	50	1.4648	1.6337	1.7963	2.0066	2.1644

→

ν_1	ν_2	0.9	0.95	0.975	0.99	0.995
40	60	1.4373	1.5943	1.7440	1.9360	2.0789
	70	1.4176	1.5661	1.7069	1.8861	2.0186
	80	1.4027	1.5449	1.6790	1.8489	1.9739
	100	1.3817	1.5151	1.6401	1.7972	1.9119
	120	1.3676	1.4952	1.6141	1.7628	1.8709
	150	1.3534	1.4752	1.5882	1.7286	1.8302
	200	1.3390	1.4551	1.5621	1.6945	1.7897
	500	1.3129	1.4186	1.5151	1.6332	1.7172
	$+\infty$	1.2951	1.3940	1.4835	1.5923	1.6691
45	1	62.617	251.49	1007.0	6295.5	25183
	2	9.4690	19.474	39.476	99.477	199.48
	3	5.1569	8.5870	14.022	26.379	42.255
	4	3.7990	5.7073	8.3943	13.714	19.705
	5	3.1517	4.4530	6.1576	9.2616	12.487
	6	2.7748	3.7629	4.9947	7.1145	9.2014
	7	2.5282	3.3285	4.2908	5.8803	7.3847
	8	2.3540	3.0304	3.8215	5.0878	6.2510
	9	2.2242	2.8131	3.4869	4.5390	5.4827
	10	2.1236	2.6477	3.2366	4.1377	4.9306
	11	2.0432	2.5174	3.0422	3.8320	4.5158
	12	1.9774	2.4121	2.8870	3.5915	4.1934
	13	1.9225	2.3252	2.7601	3.3976	3.9358
	14	1.8760	2.2521	2.6544	3.2378	3.7254
	15	1.8360	2.1897	2.5650	3.1039	3.5504
	16	1.8012	2.1360	2.4883	2.9902	3.4026
	17	1.7707	2.0890	2.4218	2.8922	3.2762
	18	1.7437	2.0477	2.3635	2.8071	3.1667
	19	1.7196	2.0110	2.3121	2.7323	3.0711
	20	1.6980	1.9783	2.2663	2.6661	2.9868
	21	1.6785	1.9488	2.2253	2.6071	2.9119
	22	1.6608	1.9221	2.1883	2.5542	2.8449
	23	1.6446	1.8979	2.1548	2.5065	2.7847
	24	1.6298	1.8757	2.1243	2.4632	2.7303
	25	1.6161	1.8554	2.0964	2.4237	2.6808
	30	1.5616	1.7748	1.9864	2.2693	2.4884
	35	1.5226	1.7175	1.9090	2.1622	2.3560
	40	1.4932	1.6748	1.8516	2.0833	2.2593
	45	1.4702	1.6415	1.8073	2.0228	2.1854
	50	1.4517	1.6149	1.7719	1.9749	2.1272
	60	1.4238	1.5749	1.7191	1.9037	2.0410
	70	1.4037	1.5463	1.6814	1.8533	1.9803
	80	1.3885	1.5247	1.6532	1.8157	1.9352
	100	1.3670	1.4944	1.6136	1.7633	1.8725
	120	1.3526	1.4741	1.5872	1.7284	1.8310
	150	1.3380	1.4536	1.5607	1.6937	1.7898
	200	1.3232	1.4330	1.5341	1.6590	1.7487
	500	1.2963	1.3955	1.4860	1.5964	1.6750
	$+\infty$	1.2779	1.3701	1.4536	1.5546	1.6259
50	1	62.688	251.77	1008.1	6302.5	25211
	2	9.4712	19.476	39.478	99.479	199.48
	3	5.1546	8.5810	14.010	26.354	42.213
	4	3.7952	5.6995	8.3808	13.690	19.667
	5	3.1471	4.4444	6.1436	9.2378	12.454
	6	2.7697	3.7537	4.9804	7.0915	9.1697
	7	2.5226	3.3189	4.2763	5.8577	7.3544
	8	2.3481	3.0204	3.8067	5.0654	6.2215
	9	2.2180	2.8028	3.4719	4.5167	5.4539
	10	2.1171	2.6371	3.2214	4.1155	4.9022
	11	2.0364	2.5066	3.0268	3.8097	4.4876
	12	1.9704	2.4010	2.8714	3.5692	4.1653
	13	1.9153	2.3138	2.7443	3.3752	3.9078
	14	1.8686	2.2405	2.6384	3.2153	3.6975

→

ν_1	ν_2	0.9	0.95	0.975	0.99	0.995
50	15	1.8284	2.1780	2.5488	3.0814	3.5225
	16	1.7934	2.1240	2.4719	2.9675	3.3747
	17	1.7628	2.0769	2.4053	2.8694	3.2482
	18	1.7356	2.0354	2.3468	2.7841	3.1387
	19	1.7114	1.9986	2.2952	2.7093	3.0430
	20	1.6896	1.9656	2.2493	2.6430	2.9586
	21	1.6700	1.9360	2.2081	2.5838	2.8837
	22	1.6521	1.9092	2.1710	2.5308	2.8167
	23	1.6358	1.8848	2.1374	2.4829	2.7564
	24	1.6209	1.8625	2.1067	2.4395	2.7018
	25	1.6072	1.8421	2.0787	2.3999	2.6522
	30	1.5522	1.7609	1.9681	2.2450	2.4594
	35	1.5127	1.7032	1.8902	2.1374	2.3266
	40	1.4830	1.6600	1.8324	2.0581	2.2295
	45	1.4597	1.6264	1.7876	1.9972	2.1553
	50	1.4409	1.5995	1.7520	1.9490	2.0967
	60	1.4126	1.5590	1.6985	1.8772	2.0100
	70	1.3922	1.5300	1.6604	1.8263	1.9488
	80	1.3767	1.5081	1.6318	1.7883	1.9033
	100	1.3548	1.4772	1.5917	1.7353	1.8400
	120	1.3400	1.4565	1.5649	1.7000	1.7981
	150	1.3251	1.4357	1.5379	1.6648	1.7563
	200	1.3100	1.4146	1.5108	1.6295	1.7147
	500	1.2823	1.3762	1.4616	1.5658	1.6398
	$+\infty$	1.2633	1.3501	1.4284	1.5231	1.5898
60	1	62.794	252.20	1009.8	6313.0	25253
	2	9.4746	19.479	39.481	99.482	199.48
	3	5.1512	8.5720	13.992	26.316	42.149
	4	3.7896	5.6877	8.3604	13.652	19.611
	5	3.1402	4.4314	6.1225	9.2020	12.402
	6	2.7620	3.7398	4.9589	7.0567	9.1219
	7	2.5142	3.3043	4.2544	5.8236	7.3088
	8	2.3391	3.0053	3.7844	5.0316	6.1772
	9	2.2085	2.7872	3.4493	4.4831	5.4104
	10	2.1072	2.6211	3.1984	4.0819	4.8592
	11	2.0261	2.4901	3.0035	3.7761	4.4450
	12	1.9597	2.3842	2.8478	3.5355	4.1229
	13	1.9043	2.2966	2.7204	3.3413	3.8655
	14	1.8572	2.2229	2.6142	3.1813	3.6552
	15	1.8168	2.1601	2.5242	3.0471	3.4803
	16	1.7816	2.1058	2.4471	2.9330	3.3324
	17	1.7506	2.0584	2.3801	2.8348	3.2058
	18	1.7232	2.0166	2.3214	2.7493	3.0962
	19	1.6988	1.9795	2.2696	2.6742	3.0004
	20	1.6768	1.9464	2.2234	2.6077	2.9159
	21	1.6569	1.9165	2.1819	2.5484	2.8408
	22	1.6389	1.8894	2.1446	2.4951	2.7736
	23	1.6224	1.8648	2.1107	2.4471	2.7132
	24	1.6073	1.8424	2.0799	2.4035	2.6585
	25	1.5934	1.8217	2.0516	2.3637	2.6088
	30	1.5376	1.7396	1.9400	2.2079	2.4151
	35	1.4975	1.6811	1.8613	2.0994	2.2816
	40	1.4672	1.6373	1.8028	2.0194	2.1838
	45	1.4434	1.6031	1.7574	1.9579	2.1090
	50	1.4242	1.5757	1.7211	1.9090	2.0499
	60	1.3952	1.5343	1.6668	1.8363	1.9622
	70	1.3742	1.5046	1.6279	1.7846	1.9002
	80	1.3583	1.4821	1.5987	1.7459	1.8540
	100	1.3356	1.4504	1.5575	1.6918	1.7896
	120	1.3203	1.4290	1.5299	1.6557	1.7469
	150	1.3048	1.4074	1.5022	1.6195	1.7041
	200	1.2891	1.3856	1.4742	1.5833	1.6614

→

ν_1	ν_2	0.9	0.95	0.975	0.99	0.995
60	500	1.2600	1.3455	1.4231	1.5174	1.5843
	$+\infty$	1.2400	1.3180	1.3883	1.4730	1.5325
70	1	62.870	252.50	1011.0	6320.6	25283
	2	9.4769	19.481	39.484	99.485	199.49
	3	5.1487	8.5656	13.979	26.289	42.104
	4	3.7855	5.6793	8.3458	13.625	19.570
	5	3.1353	4.4220	6.1074	9.1763	12.366
	6	2.7564	3.7298	4.9434	7.0318	9.0877
	7	2.5082	3.2939	4.2386	5.7991	7.2760
	8	2.3326	2.9944	3.7684	5.0073	6.1453
	9	2.2017	2.7760	3.4330	4.4589	5.3791
	10	2.1000	2.6095	3.1818	4.0577	4.8283
	11	2.0187	2.4782	2.9867	3.7518	4.4143
	12	1.9520	2.3720	2.8307	3.5111	4.0924
	13	1.8963	2.2841	2.7030	3.3168	3.8350
	14	1.8490	2.2102	2.5966	3.1567	3.6248
	15	1.8083	2.1472	2.5064	3.0224	3.4498
	16	1.7729	2.0926	2.4291	2.9082	3.3018
	17	1.7418	2.0450	2.3619	2.8097	3.1752
	18	1.7142	2.0030	2.3030	2.7241	3.0655
	19	1.6896	1.9657	2.2509	2.6488	2.9695
	20	1.6674	1.9323	2.2045	2.5822	2.8849
	21	1.6474	1.9023	2.1629	2.5227	2.8097
	22	1.6292	1.8751	2.1254	2.4693	2.7424
	23	1.6125	1.8503	2.0913	2.4210	2.6818
	24	1.5973	1.8276	2.0603	2.3773	2.6270
	25	1.5833	1.8069	2.0319	2.3373	2.5772
	30	1.5269	1.7240	1.9195	2.1808	2.3829
	35	1.4862	1.6649	1.8402	2.0716	2.2488
	40	1.4555	1.6205	1.7810	1.9911	2.1504
	45	1.4313	1.5859	1.7351	1.9290	2.0751
	50	1.4119	1.5580	1.6984	1.8797	2.0155
	60	1.3822	1.5160	1.6433	1.8061	1.9269
	70	1.3608	1.4857	1.6038	1.7537	1.8642
	80	1.3444	1.4628	1.5740	1.7144	1.8174
	100	1.3212	1.4303	1.5320	1.6594	1.7521
	120	1.3055	1.4083	1.5038	1.6226	1.7086
	150	1.2895	1.3861	1.4753	1.5856	1.6651
	200	1.2731	1.3636	1.4465	1.5485	1.6215
	500	1.2428	1.3220	1.3937	1.4807	1.5423
	$+\infty$	1.2218	1.2933	1.3575	1.4346	1.4888
80	1	62.927	252.72	1011.9	6326.2	25306
	2	9.4787	19.483	39.485	99.487	199.49
	3	5.1469	8.5607	13.970	26.269	42.070
	4	3.7825	5.6730	8.3349	13.605	19.540
	5	3.1316	4.4150	6.0960	9.1570	12.338
	6	2.7522	3.7223	4.9318	7.0130	9.0619
	7	2.5036	3.2860	4.2268	5.7806	7.2513
	8	2.3277	2.9862	3.7563	4.9890	6.1213
	9	2.1965	2.7675	3.4207	4.4407	5.3555
	10	2.0946	2.6008	3.1694	4.0394	4.8050
	11	2.0130	2.4692	2.9740	3.7335	4.3912
	12	1.9461	2.3628	2.8178	3.4928	4.0693
	13	1.8903	2.2747	2.6900	3.2984	3.8120
	14	1.8428	2.2006	2.5833	3.1381	3.6017
	15	1.8019	2.1373	2.4930	3.0037	3.4267
	16	1.7664	2.0826	2.4154	2.8893	3.2787
	17	1.7351	2.0348	2.3481	2.7908	3.1520
	18	1.7073	1.9927	2.2890	2.7050	3.0422
	19	1.6826	1.9552	2.2368	2.6296	2.9462
	20	1.6603	1.9217	2.1902	2.5628	2.8614
	21	1.6401	1.8915	2.1485	2.5032	2.7861
	22	1.6218	1.8641	2.1108	2.4496	2.7187
	23	1.6051	1.8392	2.0766	2.4013	2.6581
	24	1.5897	1.8164	2.0454	2.3573	2.6031
	25	1.5755	1.7955	2.0169	2.3173	2.5532
	30	1.5187	1.7121	1.9039	2.1601	2.3584
	35	1.4776	1.6525	1.8240	2.0505	2.2237
	40	1.4465	1.6077	1.7644	1.9694	2.1249
	45	1.4221	1.5726	1.7181	1.9069	2.0491
	50	1.4023	1.5445	1.6810	1.8571	1.9891
	60	1.3722	1.5019	1.6252	1.7828	1.8998
	70	1.3503	1.4711	1.5851	1.7298	1.8365
	80	1.3337	1.4477	1.5549	1.6901	1.7892
	100	1.3100	1.4146	1.5122	1.6342	1.7231
	120	1.2938	1.3922	1.4834	1.5968	1.6789
	150	1.2774	1.3694	1.4543	1.5592	1.6347
	200	1.2605	1.3463	1.4248	1.5212	1.5902
	500	1.2292	1.3033	1.3704	1.4517	1.5091
	$+\infty$	1.2072	1.2735	1.3329	1.4041	1.4540
100	1	63.007	253.04	1013.2	6334.1	25337
	2	9.4812	19.486	39.488	99.489	199.49
	3	5.1443	8.5539	13.956	26.240	42.022
	4	3.7782	5.6641	8.3195	13.577	19.497
	5	3.1263	4.4051	6.0800	9.1299	12.300
	6	2.7463	3.7117	4.9154	6.9867	9.0257
	7	2.4971	3.2749	4.2101	5.7547	7.2165
	8	2.3208	2.9747	3.7393	4.9633	6.0875
	9	2.1892	2.7556	3.4034	4.4150	5.3223
	10	2.0869	2.5884	3.1517	4.0137	4.7721
	11	2.0050	2.4566	2.9561	3.7077	4.3585
	12	1.9379	2.3498	2.7996	3.4668	4.0368
	13	1.8817	2.2614	2.6715	3.2723	3.7795
	14	1.8340	2.1870	2.5646	3.1118	3.5692
	15	1.7929	2.1234	2.4739	2.9772	3.3941
	16	1.7570	2.0685	2.3961	2.8627	3.2460
	17	1.7255	2.0204	2.3285	2.7639	3.1192
	18	1.6976	1.9780	2.2692	2.6779	3.0093
	19	1.6726	1.9403	2.2167	2.6023	2.9131
	20	1.6501	1.9066	2.1699	2.5353	2.8282
	21	1.6298	1.8761	2.1280	2.4755	2.7527
	22	1.6113	1.8486	2.0901	2.4217	2.6852
	23	1.5944	1.8234	2.0557	2.3732	2.6243
	24	1.5788	1.8005	2.0243	2.3291	2.5692
	25	1.5645	1.7794	1.9955	2.2888	2.5191
	30	1.5069	1.6950	1.8816	2.1307	2.3234
	35	1.4653	1.6347	1.8009	2.0202	2.1880
	40	1.4336	1.5892	1.7405	1.9383	2.0884
	45	1.4087	1.5536	1.6935	1.8751	2.0119
	50	1.3885	1.5249	1.6558	1.8248	1.9512
	60	1.3576	1.4814	1.5990	1.7493	1.8609
	70	1.3352	1.4498	1.5581	1.6954	1.7966
	80	1.3180	1.4259	1.5271	1.6548	1.7484
	100	1.2934	1.3917	1.4833	1.5977	1.6809
	120	1.2767	1.3685	1.4536	1.5592	1.6357
	150	1.2595	1.3448	1.4234	1.5204	1.5901
	200	1.2418	1.3206	1.3927	1.4811	1.5442
	500	1.2086	1.2753	1.3356	1.4084	1.4598
	$+\infty$	1.1850	1.2434	1.2956	1.3581	1.4017
120	1	63.061	253.25	1014.0	6339.4	25359
	2	9.4829	19.487	39.490	99.491	199.49
	3	5.1425	8.5494	13.947	26.221	41.989
	4	3.7753	5.6581	8.3092	13.558	19.468
	5	3.1228	4.3985	6.0693	9.1118	12.274

→

ν_1	ν_2	0.9	0.95	0.975	0.99	0.995
120	6	2.7423	3.7047	4.9044	6.9690	9.0015
	7	2.4928	3.2674	4.1989	5.7373	7.1933
	8	2.3162	2.9669	3.7279	4.9461	6.0649
	9	2.1843	2.7475	3.3918	4.3978	5.3001
	10	2.0818	2.5801	3.1399	3.9965	4.7501
	11	1.9997	2.4480	2.9441	3.6904	4.3367
	12	1.9323	2.3410	2.7874	3.4494	4.0149
	13	1.8759	2.2524	2.6590	3.2548	3.7577
	14	1.8280	2.1778	2.5519	3.0942	3.5473
	15	1.7867	2.1141	2.4611	2.9595	3.3722
	16	1.7507	2.0589	2.3831	2.8447	3.2240
	17	1.7191	2.0107	2.3153	2.7459	3.0971
	18	1.6910	1.9681	2.2558	2.6597	2.9871
	19	1.6659	1.9302	2.2032	2.5839	2.8908
	20	1.6433	1.8963	2.1562	2.5168	2.8058
	21	1.6228	1.8657	2.1141	2.4568	2.7302
	22	1.6041	1.8380	2.0760	2.4029	2.6625
	23	1.5871	1.8128	2.0415	2.3542	2.6015
	24	1.5715	1.7896	2.0099	2.3100	2.5463
	25	1.5570	1.7684	1.9811	2.2696	2.4961
	30	1.4989	1.6835	1.8664	2.1108	2.2998
	35	1.4568	1.6226	1.7851	1.9996	2.1637
	40	1.4248	1.5766	1.7242	1.9172	2.0636
	45	1.3995	1.5406	1.6767	1.8535	1.9865
	50	1.3789	1.5115	1.6386	1.8026	1.9254
	60	1.3476	1.4673	1.5810	1.7263	1.8341
	70	1.3246	1.4351	1.5394	1.6717	1.7691
	80	1.3071	1.4107	1.5079	1.6305	1.7203
	100	1.2819	1.3757	1.4631	1.5723	1.6516
	120	1.2646	1.3519	1.4327	1.5330	1.6055
	150	1.2468	1.3275	1.4017	1.4932	1.5590
	200	1.2285	1.3024	1.3700	1.4527	1.5118
	500	1.1936	1.2551	1.3105	1.3774	1.4245
	$+\infty$	1.1686	1.2214	1.2684	1.3246	1.3637
150	1	63.114	253.46	1014.9	6344.7	25380
	2	9.4846	19.489	39.491	99.492	199.49
	3	5.1408	8.5448	13.938	26.202	41.957
	4	3.7724	5.6521	8.2988	13.539	19.440
	5	3.1193	4.3918	6.0586	9.0936	12.248
	6	2.7383	3.6976	4.8934	6.9513	8.9772
	7	2.4884	3.2600	4.1877	5.7199	7.1700
	8	2.3115	2.9591	3.7165	4.9287	6.0422
	9	2.1793	2.7394	3.3801	4.3805	5.2778
	10	2.0766	2.5718	3.1280	3.9792	4.7280
	11	1.9942	2.4394	2.9320	3.6730	4.3147
	12	1.9266	2.3322	2.7750	3.4319	3.9930
	13	1.8701	2.2434	2.6465	3.2371	3.7357
	14	1.8220	2.1686	2.5392	3.0764	3.5254
	15	1.7805	2.1046	2.4482	2.9415	3.3501
	16	1.7444	2.0492	2.3700	2.8267	3.2019
	17	1.7126	2.0008	2.3020	2.7276	3.0748
	18	1.6843	1.9581	2.2423	2.6413	2.9647
	19	1.6590	1.9200	2.1895	2.5654	2.8683
	20	1.6363	1.8860	2.1424	2.4981	2.7832
	21	1.6157	1.8552	2.1001	2.4379	2.7075
	22	1.5969	1.8273	2.0618	2.3839	2.6396
	23	1.5797	1.8019	2.0271	2.3350	2.5785
	24	1.5640	1.7787	1.9954	2.2906	2.5232
	25	1.5494	1.7573	1.9664	2.2501	2.4727
	30	1.4907	1.6717	1.8510	2.0905	2.2758
	35	1.4482	1.6102	1.7691	1.9787	2.1391
	40	1.4157	1.5637	1.7076	1.8956	2.0383

→

ν_1	ν_2	0.9	0.95	0.975	0.99	0.995
150	45	1.3900	1.5272	1.6596	1.8313	1.9607
	50	1.3691	1.4977	1.6210	1.7799	1.8989
	60	1.3372	1.4527	1.5625	1.7027	1.8067
	70	1.3137	1.4200	1.5202	1.6472	1.7408
	80	1.2957	1.3949	1.4880	1.6053	1.6912
	100	1.2698	1.3591	1.4422	1.5459	1.6213
	120	1.2519	1.3345	1.4109	1.5057	1.5741
	150	1.2335	1.3093	1.3789	1.4647	1.5264
	200	1.2143	1.2832	1.3460	1.4229	1.4777
	500	1.1775	1.2334	1.2836	1.3442	1.3868
	$+\infty$	1.1505	1.1972	1.2387	1.2881	1.3224
200	1	63.167	253.68	1015.7	6350.0	25401
	2	9.4862	19.491	39.493	99.494	199.49
	3	5.1390	8.5402	13.929	26.183	41.925
	4	3.7695	5.6461	8.2885	13.520	19.411
	5	3.1157	4.3851	6.0478	9.0754	12.222
	6	2.7343	3.6904	4.8824	6.9336	8.9528
	7	2.4841	3.2525	4.1764	5.7024	7.1466
	8	2.3068	2.9513	3.7050	4.9114	6.0194
	9	2.1744	2.7313	3.3684	4.3631	5.2554
	10	2.0713	2.5634	3.1161	3.9617	4.7058
	11	1.9888	2.4308	2.9198	3.6555	4.2926
	12	1.9210	2.3233	2.7626	3.4143	3.9709
	13	1.8642	2.2343	2.6339	3.2194	3.7136
	14	1.8159	2.1592	2.5264	3.0585	3.5032
	15	1.7743	2.0950	2.4352	2.9235	3.3279
	16	1.7379	2.0395	2.3567	2.8084	3.1796
	17	1.7060	1.9909	2.2886	2.7092	3.0524
	18	1.6775	1.9479	2.2287	2.6227	2.9421
	19	1.6521	1.9097	2.1757	2.5467	2.8456
	20	1.6292	1.8755	2.1284	2.4792	2.7603
	21	1.6085	1.8446	2.0859	2.4189	2.6845
	22	1.5896	1.8165	2.0475	2.3646	2.6165
	23	1.5723	1.7909	2.0126	2.3156	2.5552
	24	1.5563	1.7675	1.9807	2.2710	2.4997
	25	1.5417	1.7460	1.9515	2.2303	2.4492
	30	1.4824	1.6597	1.8354	2.0700	2.2514
	35	1.4393	1.5976	1.7527	1.9574	2.1140
	40	1.4064	1.5505	1.6906	1.8737	2.0125
	45	1.3803	1.5135	1.6420	1.8087	1.9342
	50	1.3590	1.4835	1.6029	1.7567	1.8719
	60	1.3264	1.4377	1.5435	1.6784	1.7785
	70	1.3024	1.4042	1.5003	1.6220	1.7116
	80	1.2839	1.3786	1.4674	1.5792	1.6611
	100	1.2571	1.3416	1.4203	1.5184	1.5897
	120	1.2385	1.3162	1.3880	1.4770	1.5413
	150	1.2193	1.2899	1.3548	1.4347	1.4921
	200	1.1991	1.2626	1.3204	1.3912	1.4416
	500	1.1598	1.2096	1.2543	1.3081	1.3459
	$+\infty$	1.1301	1.1700	1.2053	1.2472	1.2763
500	1	63.264	254.06	1017.2	6359.5	25439
	2	9.4892	19.494	39.496	99.497	199.50
	3	5.1358	8.5320	13.913	26.148	41.867
	4	3.7642	5.6353	8.2698	13.486	19.359
	5	3.1093	4.3731	6.0283	9.0424	12.175
	6	2.7270	3.6775	4.8625	6.9015	8.9088
	7	2.4761	3.2389	4.1560	5.6707	7.1044
	8	2.2983	2.9371	3.6842	4.8799	5.9782
	9	2.1653	2.7166	3.3471	4.3317	5.2148
	10	2.0618	2.5481	3.0944	3.9302	4.6656
	11	1.9788	2.4151	2.8977	3.6238	4.2525
	12	1.9106	2.3071	2.7401	3.3823	3.9309

→

ν_1	ν_2	0.9	0.95	0.975	0.99	0.995
500	13	1.8535	2.2176	2.6109	3.1871	3.6735
	14	1.8048	2.1422	2.5030	3.0260	3.4630
	15	1.7628	2.0776	2.4114	2.8906	3.2875
	16	1.7262	2.0217	2.3326	2.7752	3.1389
	17	1.6939	1.9727	2.2640	2.6757	3.0115
	18	1.6651	1.9294	2.2038	2.5889	2.9010
	19	1.6394	1.8909	2.1504	2.5124	2.8042
	20	1.6162	1.8562	2.1027	2.4446	2.7186
	21	1.5952	1.8250	2.0599	2.3840	2.6425
	22	1.5760	1.7966	2.0211	2.3294	2.5742
	23	1.5585	1.7708	1.9859	2.2800	2.5126
	24	1.5423	1.7470	1.9537	2.2351	2.4568
	25	1.5274	1.7252	1.9242	2.1941	2.4059
	30	1.4670	1.6375	1.8065	2.0321	2.2066
	35	1.4229	1.5742	1.7224	1.9180	2.0676
	40	1.3890	1.5260	1.6590	1.8329	1.9647
	45	1.3621	1.4879	1.6092	1.7666	1.8850
	50	1.3400	1.4569	1.5689	1.7133	1.8214
	60	1.3060	1.4093	1.5075	1.6327	1.7256
	70	1.2807	1.3743	1.4625	1.5743	1.6565
	80	1.2611	1.3472	1.4280	1.5296	1.6041
	100	1.2324	1.3079	1.3781	1.4656	1.5291
	120	1.2122	1.2804	1.3434	1.4215	1.4778
	150	1.1910	1.2516	1.3073	1.3757	1.4248
	200	1.1683	1.2211	1.2691	1.3277	1.3694
	500	1.1216	1.1587	1.1918	1.2317	1.2596
	$+\infty$	1.0819	1.1063	1.1277	1.1530	1.1704
$+\infty$	1	63.328	254.31	1018.3	6365.9	25464
	2	9.4912	19.496	39.498	99.499	199.50
	3	5.1337	8.5264	13.902	26.125	41.828
	4	3.7607	5.6281	8.2573	13.463	19.325
	5	3.1050	4.3650	6.0153	9.0204	12.144
	6	2.7222	3.6689	4.8491	6.8800	8.8793
	7	2.4708	3.2298	4.1423	5.6495	7.0760
	8	2.2926	2.9276	3.6702	4.8588	5.9506
	9	2.1592	2.7067	3.3329	4.3105	5.1875
	10	2.0554	2.5379	3.0798	3.9090	4.6385
	11	1.9721	2.4045	2.8828	3.6024	4.2255
	12	1.9036	2.2962	2.7249	3.3608	3.9039
	13	1.8462	2.2064	2.5955	3.1654	3.6465
	14	1.7973	2.1307	2.4872	3.0040	3.4359
	15	1.7551	2.0658	2.3953	2.8684	3.2602
	16	1.7182	2.0096	2.3163	2.7528	3.1115
	17	1.6856	1.9604	2.2474	2.6530	2.9839
	18	1.6567	1.9168	2.1869	2.5660	2.8732
	19	1.6308	1.8780	2.1333	2.4893	2.7762
	20	1.6074	1.8432	2.0853	2.4212	2.6904
	21	1.5862	1.8117	2.0422	2.3603	2.6140
	22	1.5668	1.7831	2.0032	2.3055	2.5455
	23	1.5490	1.7570	1.9677	2.2558	2.4837
	24	1.5327	1.7330	1.9353	2.2107	2.4276
	25	1.5176	1.7110	1.9055	2.1694	2.3765
	30	1.4564	1.6223	1.7867	2.0062	2.1760
	35	1.4115	1.5580	1.7016	1.8910	2.0359
	40	1.3769	1.5089	1.6371	1.8047	1.9318
	45	1.3493	1.4700	1.5864	1.7374	1.8510
	50	1.3267	1.4383	1.5452	1.6831	1.7863
	60	1.2915	1.3893	1.4821	1.6006	1.6885
	70	1.2652	1.3529	1.4357	1.5404	1.6176
	80	1.2446	1.3247	1.3997	1.4942	1.5634
	100	1.2142	1.2832	1.3473	1.4272	1.4853
	120	1.1926	1.2539	1.3104	1.3805	1.4311
	150	1.1694	1.2226	1.2714	1.3314	1.3744
	200	1.1439	1.1885	1.2290	1.2785	1.3137
	500	1.0871	1.1132	1.1365	1.1644	1.1840
	$+\infty$	1.0000	1.0000	1.0000	1.0000	1.0000

→

7 Non-parametric tests

Rejection regions of the Wilcoxon signed-rank test (one sample)

The table below contains the end points of the rejection regions for the Wilcoxon signed-rank test for inference about the median η of a symmetric distribution.

Denote by w_- the rank sum of the observations less than η_0, and denote by w_+ the rank sum of the observations greater than η_0.

H_0: $\eta \leq \eta_0$ vs. H_1 $\eta > \eta_0$ (one-sided): Reject H_0 if w_- is not larger than the tabulated value.
H_0: $\eta \geq \eta_0$ vs. H_1 $\eta < \eta_0$ (one-sided): Reject H_0 if w_+ is not larger than the tabulated value.
H_0: $\eta = \eta_0$ vs. H_1 $\eta \neq \eta_0$ (two-sided): Reject H_0 if $\min\{w_+, w_-\}$ is not larger than the tabulated value.

"–" indicates that H_0 is never rejected for the chosen size α and sample size n.

	size α (one-sided)					size α (one-sided)					size α (one-sided)			
	5%	2.5%	1%	0.5%		5%	2.5%	1%	0.5%		5%	2.5%	1%	0.5%
	size α (two-sided)					size α (two-sided)					size α (two-sided)			
n	10%	5%	2%	1%	n	10%	5%	2%	1%	n	10%	5%	2%	1%
1	–	–	–	–	31	163	147	130	118	61	715	672	623	589
2	–	–	–	–	32	175	159	140	128	62	741	697	646	611
3	–	–	–	–	33	187	170	151	138	63	767	721	669	634
4	–	–	–	–	34	200	182	162	148	64	793	747	693	657
5	0	–	–	–	35	213	195	173	159	65	820	772	718	681
6	2	0	–	–	36	227	208	185	171	66	847	798	742	705
7	3	2	0	–	37	241	221	198	182	67	875	825	768	729
8	5	3	1	0	38	256	235	211	194	68	903	852	793	754
9	8	5	3	1	39	271	249	224	207	69	931	879	819	779
10	10	8	5	3	40	286	264	238	220	70	960	907	846	805
11	13	10	7	5	41	302	279	252	233	71	990	936	873	831
12	17	13	9	7	42	319	294	266	247	72	1020	964	901	858
13	21	17	12	9	43	336	310	281	261	73	1050	994	928	884
14	25	21	15	12	44	353	327	296	276	74	1081	1023	957	912
15	30	25	19	15	45	371	343	312	291	75	1112	1053	986	940
16	35	29	23	19	46	389	361	328	307	76	1144	1084	1015	968
17	41	34	27	23	47	407	378	345	322	77	1176	1115	1044	997
18	47	40	32	27	48	426	396	362	339	78	1209	1147	1075	1026
19	53	46	37	32	49	446	415	379	355	79	1242	1179	1105	1056
20	60	52	43	37	50	466	434	397	373	80	1276	1211	1136	1086
21	67	58	49	42	51	486	453	416	390	81	1310	1244	1168	1116
22	75	65	55	48	52	507	473	434	408	82	1345	1277	1200	1147
23	83	73	62	54	53	529	494	454	427	83	1380	1311	1232	1178
24	91	81	69	61	54	550	514	473	445	84	1415	1345	1265	1210
25	100	89	76	68	55	573	536	493	465	85	1451	1380	1298	1242
26	110	98	84	75	56	595	557	514	484	86	1487	1415	1332	1275
27	119	107	92	83	57	618	579	535	504	87	1524	1451	1366	1308
28	130	116	101	91	58	642	602	556	525	88	1561	1487	1400	1342
29	140	126	110	100	59	666	625	578	546	89	1599	1523	1435	1376
30	151	137	120	109	60	690	648	600	567	90	1638	1560	1471	1410

Rejection regions of the Mann-Whitney/Wilcoxon two-sample test

The table below contains the end points of the rejection regions for the Mann-Whitney test for inference about the medians η_1 and η_2 of two translated symmetric distributions based on two samples of size n_1 and n_2, respectively.

Denote by r_1 and r_2 the rank sums obtained for the observations from the first and the second sample. Define $u_1 = r_1 - \frac{n_1(n_1+1)}{2}$ and $u_2 = r_2 - \frac{n_2(n_2+1)}{2}$.

H_0: $\eta_1 \leq \eta_2$ vs. H_1 $\eta_1 > \eta_2$ (one-sided): Reject H_0 if u_2 is not larger than the tabulated value.
H_0: $\eta_1 \geq \eta_2$ vs. H_1 $\eta_1 < \eta_2$ (one-sided): Reject H_0 if u_1 is not larger than the tabulated value.
H_0: $\eta_1 = \eta_2$ vs. H_1 $\eta_1 \neq \eta_2$ (two-sided): Reject H_0 if $\min\{u_1, u_2\}$ is not larger than the tabulated value.

"–" indicates that H_0 is never rejected for the chosen size α and sample sizes n_1 and n_2.

The corresponding tables are shown on pages 35 and 36.

Rejection regions of the Mann-Whitney/Wilcoxon two-sample test (size α: 5% one-sided, 10% two-sided)

	n_2																								
n_1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
2	–	–	–	0	0	0	1	1	1	1	2	2	2	3	3	3	4	4	4	5	5	5	6	6
3	–	–	0	1	2	2	3	3	4	5	5	6	7	7	8	9	9	10	11	11	12	13	13	14
4	–	0	1	2	3	4	5	6	7	8	9	10	11	12	14	15	16	17	18	19	20	21	22	23
5	0	1	2	4	5	6	8	9	11	12	13	15	16	18	19	20	22	23	25	26	28	29	30	32
6	0	2	3	5	7	8	10	12	14	16	17	19	21	23	25	26	28	30	32	34	36	37	39	41
7	0	2	4	6	8	11	13	15	17	19	21	24	26	28	30	33	35	37	39	41	44	46	48	50
8	1	3	5	8	10	13	15	18	20	23	26	28	31	33	36	39	41	44	47	49	52	54	57	60
9	1	3	6	9	12	15	18	21	24	27	30	33	36	39	42	45	48	51	54	57	60	63	66	69
10	1	4	7	11	14	17	20	24	27	31	34	37	41	44	48	51	55	58	62	65	68	72	75	79
11	1	5	8	12	16	19	23	27	31	34	38	42	46	50	54	57	61	65	69	73	77	81	85	89
12	2	5	9	13	17	21	26	30	34	38	42	47	51	55	60	64	68	72	77	81	85	90	94	98
13	2	6	10	15	19	24	28	33	37	42	47	51	56	61	65	70	75	80	84	89	94	98	103	108
14	2	7	11	16	21	26	31	36	41	46	51	56	61	66	71	77	82	87	92	97	102	107	113	118
15	3	7	12	18	23	28	33	39	44	50	55	61	66	72	77	83	88	94	100	105	111	116	122	128
16	3	8	14	19	25	30	36	42	48	54	60	65	71	77	83	89	95	101	107	113	119	125	131	137
17	3	9	15	20	26	33	39	45	51	57	64	70	77	83	89	96	102	109	115	121	128	134	141	147
18	4	9	16	22	28	35	41	48	55	61	68	75	82	88	95	102	109	116	123	130	136	143	150	157
19	4	10	17	23	30	37	44	51	58	65	72	80	87	94	101	109	116	123	130	138	145	152	160	167
20	4	11	18	25	32	39	47	54	62	69	77	84	92	100	107	115	123	130	138	146	154	161	169	177
21	5	11	19	26	34	41	49	57	65	73	81	89	97	105	113	121	130	138	146	154	162	170	179	187
22	5	12	20	28	36	44	52	60	68	77	85	94	102	111	119	128	136	145	154	162	171	179	188	197
23	5	13	21	29	37	46	54	63	72	81	90	98	107	116	125	134	143	152	161	170	179	189	198	207
24	6	13	22	30	39	48	57	66	75	85	94	103	113	122	131	141	150	160	169	179	188	198	207	217
25	6	14	23	32	41	50	60	69	79	89	98	108	118	128	137	147	157	167	177	187	197	207	217	227

Rejection regions of the Mann-Whitney/Wilcoxon two-sample test (size α: 2.5% one-sided, 5% two-sided)

	n_2																							
n_1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
2	–	–	–	–	–	–	0	0	0	0	1	1	1	1	1	2	2	2	2	3	3	3	3	3
3	–	–	–	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10
4	–	–	0	1	2	3	4	4	5	6	7	8	9	10	11	11	12	13	14	15	16	17	17	18
5	–	0	1	2	3	5	6	7	8	9	11	12	13	14	15	17	18	19	20	22	23	24	25	27
6	–	1	2	3	5	6	8	10	11	13	14	16	17	19	21	22	24	25	27	29	30	32	33	35
7	–	1	3	5	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44
8	0	2	4	6	8	10	13	15	17	19	22	24	26	29	31	34	36	38	41	43	45	48	50	53
9	0	2	4	7	10	12	15	17	20	23	26	28	31	34	37	39	42	45	48	50	53	56	59	62
10	0	3	5	8	11	14	17	20	23	26	29	33	36	39	42	45	48	52	55	58	61	64	67	71
11	0	3	6	9	13	16	19	23	26	30	33	37	40	44	47	51	55	58	62	65	69	73	76	80
12	1	4	7	11	14	18	22	26	29	33	37	41	45	49	53	57	61	65	69	73	77	81	85	89
13	1	4	8	12	16	20	24	28	33	37	41	45	50	54	59	63	67	72	76	80	85	89	94	98
14	1	5	9	13	17	22	26	31	36	40	45	50	55	59	64	69	74	78	83	88	93	98	102	107
15	1	5	10	14	19	24	29	34	39	44	49	54	59	64	70	75	80	85	90	96	101	106	111	117
16	1	6	11	15	21	26	31	37	42	47	53	59	64	70	75	81	86	92	98	103	109	115	120	126
17	2	6	11	17	22	28	34	39	45	51	57	63	69	75	81	87	93	99	105	111	117	123	129	135
18	2	7	12	18	24	30	36	42	48	55	61	67	74	80	86	93	99	106	112	119	125	132	138	145
19	2	7	13	19	25	32	38	45	52	58	65	72	78	85	92	99	106	113	119	126	133	140	147	154
20	2	8	14	20	27	34	41	48	55	62	69	76	83	90	98	105	112	119	127	134	141	149	156	163
21	3	8	15	22	29	36	43	50	58	65	73	80	88	96	103	111	119	126	134	142	150	157	165	173
22	3	9	16	23	30	38	45	53	61	69	77	85	93	101	109	117	125	133	141	150	158	166	174	182
23	3	9	17	24	32	40	48	56	64	73	81	89	98	106	115	123	132	140	149	157	166	175	183	192
24	3	10	17	25	33	42	50	59	67	76	85	94	102	111	120	129	138	147	156	165	174	183	192	201
25	3	10	18	27	35	44	53	62	71	80	89	98	107	117	126	135	145	154	163	173	182	192	201	211

Rejection regions of the Mann-Whitney/Wilcoxon two-sample test (size α: 1% one-sided, 2% two-sided)

	n_2																							
n_1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
2	–	–	–	–	–	–	–	–	–	–	–	0	0	0	0	0	0	1	1	1	1	1	1	1
3	–	–	–	–	–	0	0	1	1	1	2	2	2	3	3	4	4	4	5	5	5	6	6	7
4	–	–	–	0	1	1	2	3	3	4	5	5	6	7	7	8	9	9	10	11	11	12	13	13
5	–	–	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
6	–	–	1	2	3	4	6	7	8	9	11	12	13	15	16	18	19	20	22	23	24	26	27	29
7	–	0	1	3	4	6	7	9	11	12	14	16	17	19	21	23	24	26	28	30	31	33	35	36
8	–	0	2	4	6	7	9	11	13	15	17	20	22	24	26	28	30	32	34	36	38	40	42	45
9	–	1	3	5	7	9	11	14	16	18	21	23	26	28	31	33	36	38	40	43	45	48	50	53
10	–	1	3	6	8	11	13	16	19	22	24	27	30	33	36	38	41	44	47	50	53	55	58	61
11	–	1	4	7	9	12	15	18	22	25	28	31	34	37	41	44	47	50	53	57	60	63	66	70
12	–	2	5	8	11	14	17	21	24	28	31	35	38	42	46	49	53	56	60	64	67	71	75	78
13	0	2	5	9	12	16	20	23	27	31	35	39	43	47	51	55	59	63	67	71	75	79	83	87
14	0	2	6	10	13	17	22	26	30	34	38	43	47	51	56	60	65	69	73	78	82	87	91	95
15	0	3	7	11	15	19	24	28	33	37	42	47	51	56	61	66	70	75	80	85	90	94	99	104
16	0	3	7	12	16	21	26	31	36	41	46	51	56	61	66	71	76	82	87	92	97	102	108	113
17	0	4	8	13	18	23	28	33	38	44	49	55	60	66	71	77	82	88	93	99	105	110	116	122
18	0	4	9	14	19	24	30	36	41	47	53	59	65	70	76	82	88	94	100	106	112	118	124	130
19	1	4	9	15	20	26	32	38	44	50	56	63	69	75	82	88	94	101	107	113	120	126	133	139
20	1	5	10	16	22	28	34	40	47	53	60	67	73	80	87	93	100	107	114	121	127	134	141	148
21	1	5	11	17	23	30	36	43	50	57	64	71	78	85	92	99	106	113	121	128	135	142	150	157
22	1	5	11	18	24	31	38	45	53	60	67	75	82	90	97	105	112	120	127	135	143	150	158	166
23	1	6	12	19	26	33	40	48	55	63	71	79	87	94	102	110	118	126	134	142	150	158	167	175
24	1	6	13	20	27	35	42	50	58	66	75	83	91	99	108	116	124	133	141	150	158	167	175	184
25	1	7	13	21	29	36	45	53	61	70	78	87	95	104	113	122	130	139	148	157	166	175	184	192

Rejection regions of the Mann-Whitney/Wilcoxon two-sample test (size α: 0.5% one-sided, 1% two-sided)

	n_2																							
n_1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	0	0	0	0	0	0	0
3	–	–	–	–	–	–	–	0	0	0	1	1	1	2	2	2	2	3	3	3	4	4	4	5
4	–	–	–	–	0	0	1	1	2	2	3	3	4	5	5	6	6	7	8	8	9	9	10	10
5	–	–	–	0	1	1	2	3	4	5	6	7	7	8	9	10	11	12	13	14	14	15	16	17
6	–	–	0	1	2	3	4	5	6	7	9	10	11	12	13	15	16	17	18	19	21	22	23	24
7	–	–	0	1	3	4	6	7	9	10	12	13	15	16	18	19	21	22	24	25	27	29	30	32
8	–	–	1	2	4	6	7	9	11	13	15	17	18	20	22	24	26	28	30	32	34	35	37	39
9	–	0	1	3	5	7	9	11	13	16	18	20	22	24	27	29	31	33	36	38	40	43	45	47
10	–	0	2	4	6	9	11	13	16	18	21	24	26	29	31	34	37	39	42	44	47	50	52	55
11	–	0	2	5	7	10	13	16	18	21	24	27	30	33	36	39	42	45	48	51	54	57	60	63
12	–	1	3	6	9	12	15	18	21	24	27	31	34	37	41	44	47	51	54	58	61	64	68	71
13	–	1	3	7	10	13	17	20	24	27	31	34	38	42	45	49	53	57	60	64	68	72	75	79
14	–	1	4	7	11	15	18	22	26	30	34	38	42	46	50	54	58	63	67	71	75	79	83	87
15	–	2	5	8	12	16	20	24	29	33	37	42	46	51	55	60	64	69	73	78	82	87	91	96
16	–	2	5	9	13	18	22	27	31	36	41	45	50	55	60	65	70	74	79	84	89	94	99	104
17	–	2	6	10	15	19	24	29	34	39	44	49	54	60	65	70	75	81	86	91	96	102	107	112
18	–	2	6	11	16	21	26	31	37	42	47	53	58	64	70	75	81	87	92	98	104	109	115	121
19	0	3	7	12	17	22	28	33	39	45	51	57	63	69	74	81	87	93	99	105	111	117	123	129
20	0	3	8	13	18	24	30	36	42	48	54	60	67	73	79	86	92	99	105	112	118	125	131	138
21	0	3	8	14	19	25	32	38	44	51	58	64	71	78	84	91	98	105	112	118	125	132	139	146
22	0	4	9	14	21	27	34	40	47	54	61	68	75	82	89	96	104	111	118	125	133	140	147	155
23	0	4	9	15	22	29	35	43	50	57	64	72	79	87	94	102	109	117	125	132	140	148	155	163
24	0	4	10	16	23	30	37	45	52	60	68	75	83	91	99	107	115	123	131	139	147	155	164	172
25	0	5	10	17	24	32	39	47	55	63	71	79	87	96	104	112	121	129	138	146	155	163	172	180

8 Correlation

Critical values for the linear correlation coefficient

The table below contains the critical values for testing whether the linear correlation coefficient is 0. The test statistic used is the empirical correlation coefficient r computed from a sample of size n.

The test is based on the same assumptions as the simple linear model, i.e. $Y_i|X_i = x_i \sim \mathsf{N}(\beta_0 + \beta_1 x_i, \sigma^2)$ with the Y_i being independent. This assumption for example holds when (X_i, Y_i) are i.i.d. realisations from a bivariate normal distribution.

H_0: $\rho \leq 0$ vs. H_1 $\rho > 0$ (one-sided): Reject H_0 if r is greater than the tabulated value.
H_0: $\rho \geq 0$ vs. H_1 $\rho < 0$ (one-sided): Reject H_0 if $-r$ is greater than the tabulated value.
H_0: $\rho = 0$ vs. H_1 $\rho \neq 0$ (two-sided): Reject H_0 if $|r|$ is greater than the tabulated value.

	size α (one-sided)			
	5%	2.5%	1%	0.5%
	size α (two-sided)			
n	10%	5%	2%	1%
3	0.9877	0.9969	0.9995	0.9999
4	0.9000	0.9500	0.9800	0.9900
5	0.8054	0.8783	0.9343	0.9587
6	0.7293	0.8114	0.8822	0.9172
7	0.6694	0.7545	0.8329	0.8745
8	0.6215	0.7067	0.7887	0.8343
9	0.5822	0.6664	0.7498	0.7977
10	0.5494	0.6319	0.7155	0.7646
11	0.5214	0.6021	0.6851	0.7348
12	0.4973	0.5760	0.6581	0.7079
13	0.4762	0.5529	0.6339	0.6835
14	0.4575	0.5324	0.6120	0.6614
15	0.4409	0.5140	0.5923	0.6411
16	0.4259	0.4973	0.5742	0.6226
17	0.4124	0.4821	0.5577	0.6055
18	0.4000	0.4683	0.5425	0.5897
19	0.3887	0.4555	0.5285	0.5751
20	0.3783	0.4438	0.5155	0.5614
21	0.3687	0.4329	0.5034	0.5487
22	0.3598	0.4227	0.4921	0.5368
23	0.3515	0.4132	0.4815	0.5256
24	0.3438	0.4044	0.4716	0.5151
25	0.3365	0.3961	0.4622	0.5052
26	0.3297	0.3882	0.4534	0.4958
27	0.3233	0.3809	0.4451	0.4869
28	0.3172	0.3739	0.4372	0.4785
29	0.3115	0.3673	0.4297	0.4705
30	0.3061	0.3610	0.4226	0.4629
31	0.3009	0.3550	0.4158	0.4556
32	0.2960	0.3494	0.4093	0.4487
33	0.2913	0.3440	0.4032	0.4421
34	0.2869	0.3388	0.3972	0.4357
35	0.2826	0.3338	0.3916	0.4296
36	0.2785	0.3291	0.3862	0.4238
37	0.2746	0.3246	0.3810	0.4182
38	0.2709	0.3202	0.3760	0.4128
39	0.2673	0.3160	0.3712	0.4076

	size α (one-sided)			
	5%	2.5%	1%	0.5%
	size α (two-sided)			
n	10%	5%	2%	1%
40	0.2638	0.3120	0.3665	0.4026
41	0.2605	0.3081	0.3621	0.3978
42	0.2573	0.3044	0.3578	0.3932
43	0.2542	0.3008	0.3536	0.3887
44	0.2512	0.2973	0.3496	0.3843
45	0.2483	0.2940	0.3457	0.3801
46	0.2455	0.2907	0.3420	0.3761
47	0.2429	0.2876	0.3384	0.3721
48	0.2403	0.2845	0.3348	0.3683
49	0.2377	0.2816	0.3314	0.3646
50	0.2353	0.2787	0.3281	0.3610
55	0.2241	0.2656	0.3129	0.3445
60	0.2144	0.2542	0.2997	0.3301
65	0.2058	0.2441	0.2880	0.3173
70	0.1982	0.2352	0.2776	0.3060
75	0.1914	0.2272	0.2682	0.2957
80	0.1852	0.2199	0.2597	0.2864
85	0.1796	0.2133	0.2520	0.2780
90	0.1745	0.2072	0.2449	0.2702
95	0.1698	0.2017	0.2384	0.2631
100	0.1654	0.1966	0.2324	0.2565
110	0.1576	0.1874	0.2216	0.2446
120	0.1509	0.1793	0.2122	0.2343
130	0.1449	0.1723	0.2039	0.2252
140	0.1396	0.1660	0.1965	0.2170
150	0.1348	0.1603	0.1898	0.2097
160	0.1305	0.1552	0.1838	0.2031
170	0.1266	0.1506	0.1783	0.1971
180	0.1230	0.1463	0.1733	0.1915
190	0.1197	0.1424	0.1687	0.1865
200	0.1166	0.1388	0.1644	0.1818
210	0.1138	0.1354	0.1604	0.1774
220	0.1112	0.1323	0.1568	0.1733
230	0.1087	0.1294	0.1533	0.1695
240	0.1064	0.1267	0.1501	0.1660
250	0.1043	0.1241	0.1471	0.1626
500	0.0736	0.0877	0.1040	0.1151

Note that confidence intervals and tests for the linear correlation coefficient can also be constructed using Fisher's z-transform, which is tabulated in section 9.

9 Fisher's z-transform

Fisher's z-transform

The function tabulated below is Fisher's z-transform

$$z(r) \equiv \tanh^{-1}(r) = \frac{1}{2}\log\left(\frac{1+r}{1-r}\right).$$

	r									
r	□.□□0	□.□□1	□.□□2	□.□□3	□.□□4	□.□□5	□.□□6	□.□□7	□.□□8	□.□□9
0.00□	0.0000	0.0010	0.0020	0.0030	0.0040	0.0050	0.0060	0.0070	0.0080	0.0090
0.01□	0.0100	0.0110	0.0120	0.0130	0.0140	0.0150	0.0160	0.0170	0.0180	0.0190
0.02□	0.0200	0.0210	0.0220	0.0230	0.0240	0.0250	0.0260	0.0270	0.0280	0.0290
0.03□	0.0300	0.0310	0.0320	0.0330	0.0340	0.0350	0.0360	0.0370	0.0380	0.0390
0.04□	0.0400	0.0410	0.0420	0.0430	0.0440	0.0450	0.0460	0.0470	0.0480	0.0490
0.05□	0.0500	0.0510	0.0520	0.0530	0.0541	0.0551	0.0561	0.0571	0.0581	0.0591
0.06□	0.0601	0.0611	0.0621	0.0631	0.0641	0.0651	0.0661	0.0671	0.0681	0.0691
0.07□	0.0701	0.0711	0.0721	0.0731	0.0741	0.0751	0.0761	0.0772	0.0782	0.0792
0.08□	0.0802	0.0812	0.0822	0.0832	0.0842	0.0852	0.0862	0.0872	0.0882	0.0892
0.09□	0.0902	0.0913	0.0923	0.0933	0.0943	0.0953	0.0963	0.0973	0.0983	0.0993
0.10□	0.1003	0.1013	0.1024	0.1034	0.1044	0.1054	0.1064	0.1074	0.1084	0.1094
0.11□	0.1104	0.1115	0.1125	0.1135	0.1145	0.1155	0.1165	0.1175	0.1186	0.1196
0.12□	0.1206	0.1216	0.1226	0.1236	0.1246	0.1257	0.1267	0.1277	0.1287	0.1297
0.13□	0.1307	0.1318	0.1328	0.1338	0.1348	0.1358	0.1368	0.1379	0.1389	0.1399
0.14□	0.1409	0.1419	0.1430	0.1440	0.1450	0.1460	0.1471	0.1481	0.1491	0.1501
0.15□	0.1511	0.1522	0.1532	0.1542	0.1552	0.1563	0.1573	0.1583	0.1593	0.1604
0.16□	0.1614	0.1624	0.1634	0.1645	0.1655	0.1665	0.1676	0.1686	0.1696	0.1706
0.17□	0.1717	0.1727	0.1737	0.1748	0.1758	0.1768	0.1779	0.1789	0.1799	0.1809
0.18□	0.1820	0.1830	0.1841	0.1851	0.1861	0.1872	0.1882	0.1892	0.1903	0.1913
0.19□	0.1923	0.1934	0.1944	0.1955	0.1965	0.1975	0.1986	0.1996	0.2007	0.2017
0.20□	0.2027	0.2038	0.2048	0.2059	0.2069	0.2079	0.2090	0.2100	0.2111	0.2121
0.21□	0.2132	0.2142	0.2153	0.2163	0.2174	0.2184	0.2195	0.2205	0.2216	0.2226
0.22□	0.2237	0.2247	0.2258	0.2268	0.2279	0.2289	0.2300	0.2310	0.2321	0.2331
0.23□	0.2342	0.2352	0.2363	0.2374	0.2384	0.2395	0.2405	0.2416	0.2427	0.2437
0.24□	0.2448	0.2458	0.2469	0.2480	0.2490	0.2501	0.2512	0.2522	0.2533	0.2543
0.25□	0.2554	0.2565	0.2575	0.2586	0.2597	0.2608	0.2618	0.2629	0.2640	0.2650
0.26□	0.2661	0.2672	0.2683	0.2693	0.2704	0.2715	0.2726	0.2736	0.2747	0.2758
0.27□	0.2769	0.2779	0.2790	0.2801	0.2812	0.2823	0.2833	0.2844	0.2855	0.2866
0.28□	0.2877	0.2888	0.2899	0.2909	0.2920	0.2931	0.2942	0.2953	0.2964	0.2975
0.29□	0.2986	0.2997	0.3008	0.3018	0.3029	0.3040	0.3051	0.3062	0.3073	0.3084
0.30□	0.3095	0.3106	0.3117	0.3128	0.3139	0.3150	0.3161	0.3172	0.3183	0.3194
0.31□	0.3205	0.3217	0.3228	0.3239	0.3250	0.3261	0.3272	0.3283	0.3294	0.3305
0.32□	0.3316	0.3328	0.3339	0.3350	0.3361	0.3372	0.3383	0.3395	0.3406	0.3417
0.33□	0.3428	0.3440	0.3451	0.3462	0.3473	0.3484	0.3496	0.3507	0.3518	0.3530
0.34□	0.3541	0.3552	0.3564	0.3575	0.3586	0.3598	0.3609	0.3620	0.3632	0.3643
0.35□	0.3654	0.3666	0.3677	0.3689	0.3700	0.3712	0.3723	0.3734	0.3746	0.3757
0.36□	0.3769	0.3780	0.3792	0.3803	0.3815	0.3826	0.3838	0.3850	0.3861	0.3873
0.37□	0.3884	0.3896	0.3907	0.3919	0.3931	0.3942	0.3954	0.3966	0.3977	0.3989
0.38□	0.4001	0.4012	0.4024	0.4036	0.4047	0.4059	0.4071	0.4083	0.4094	0.4106
0.39□	0.4118	0.4130	0.4142	0.4153	0.4165	0.4177	0.4189	0.4201	0.4213	0.4225
0.40□	0.4236	0.4248	0.4260	0.4272	0.4284	0.4296	0.4308	0.4320	0.4332	0.4344
0.41□	0.4356	0.4368	0.4380	0.4392	0.4404	0.4416	0.4428	0.4441	0.4453	0.4465
0.42□	0.4477	0.4489	0.4501	0.4513	0.4526	0.4538	0.4550	0.4562	0.4574	0.4587
0.43□	0.4599	0.4611	0.4624	0.4636	0.4648	0.4660	0.4673	0.4685	0.4698	0.4710
0.44□	0.4722	0.4735	0.4747	0.4760	0.4772	0.4784	0.4797	0.4809	0.4822	0.4834
0.45□	0.4847	0.4860	0.4872	0.4885	0.4897	0.4910	0.4922	0.4935	0.4948	0.4960
0.46□	0.4973	0.4986	0.4999	0.5011	0.5024	0.5037	0.5049	0.5062	0.5075	0.5088
0.47□	0.5101	0.5114	0.5126	0.5139	0.5152	0.5165	0.5178	0.5191	0.5204	0.5217
0.48□	0.5230	0.5243	0.5256	0.5269	0.5282	0.5295	0.5308	0.5321	0.5334	0.5347
0.49□	0.5361	0.5374	0.5387	0.5400	0.5413	0.5427	0.5440	0.5453	0.5466	0.5480

→

r	□.□□0	□.□□1	□.□□2	□.□□3	□.□□4	□.□□5	□.□□6	□.□□7	□.□□8	□.□□9
0.50□	0.5493	0.5506	0.5520	0.5533	0.5547	0.5560	0.5573	0.5587	0.5600	0.5614
0.51□	0.5627	0.5641	0.5654	0.5668	0.5682	0.5695	0.5709	0.5722	0.5736	0.5750
0.52□	0.5763	0.5777	0.5791	0.5805	0.5818	0.5832	0.5846	0.5860	0.5874	0.5888
0.53□	0.5901	0.5915	0.5929	0.5943	0.5957	0.5971	0.5985	0.5999	0.6013	0.6027
0.54□	0.6042	0.6056	0.6070	0.6084	0.6098	0.6112	0.6127	0.6141	0.6155	0.6169
0.55□	0.6184	0.6198	0.6213	0.6227	0.6241	0.6256	0.6270	0.6285	0.6299	0.6314
0.56□	0.6328	0.6343	0.6358	0.6372	0.6387	0.6401	0.6416	0.6431	0.6446	0.6460
0.57□	0.6475	0.6490	0.6505	0.6520	0.6535	0.6550	0.6565	0.6580	0.6595	0.6610
0.58□	0.6625	0.6640	0.6655	0.6670	0.6685	0.6700	0.6716	0.6731	0.6746	0.6761
0.59□	0.6777	0.6792	0.6807	0.6823	0.6838	0.6854	0.6869	0.6885	0.6900	0.6916
0.60□	0.6931	0.6947	0.6963	0.6978	0.6994	0.7010	0.7026	0.7042	0.7057	0.7073
0.61□	0.7089	0.7105	0.7121	0.7137	0.7153	0.7169	0.7185	0.7201	0.7218	0.7234
0.62□	0.7250	0.7266	0.7283	0.7299	0.7315	0.7332	0.7348	0.7365	0.7381	0.7398
0.63□	0.7414	0.7431	0.7447	0.7464	0.7481	0.7498	0.7514	0.7531	0.7548	0.7565
0.64□	0.7582	0.7599	0.7616	0.7633	0.7650	0.7667	0.7684	0.7701	0.7718	0.7736
0.65□	0.7753	0.7770	0.7788	0.7805	0.7823	0.7840	0.7858	0.7875	0.7893	0.7910
0.66□	0.7928	0.7946	0.7964	0.7981	0.7999	0.8017	0.8035	0.8053	0.8071	0.8089
0.67□	0.8107	0.8126	0.8144	0.8162	0.8180	0.8199	0.8217	0.8236	0.8254	0.8273
0.68□	0.8291	0.8310	0.8328	0.8347	0.8366	0.8385	0.8404	0.8423	0.8441	0.8460
0.69□	0.8480	0.8499	0.8518	0.8537	0.8556	0.8576	0.8595	0.8614	0.8634	0.8653
0.70□	0.8673	0.8693	0.8712	0.8732	0.8752	0.8772	0.8792	0.8812	0.8832	0.8852
0.71□	0.8872	0.8892	0.8912	0.8933	0.8953	0.8973	0.8994	0.9014	0.9035	0.9056
0.72□	0.9076	0.9097	0.9118	0.9139	0.9160	0.9181	0.9202	0.9223	0.9245	0.9266
0.73□	0.9287	0.9309	0.9330	0.9352	0.9373	0.9395	0.9417	0.9439	0.9461	0.9483
0.74□	0.9505	0.9527	0.9549	0.9571	0.9594	0.9616	0.9639	0.9661	0.9684	0.9707
0.75□	0.9730	0.9752	0.9775	0.9798	0.9822	0.9845	0.9868	0.9892	0.9915	0.9939
0.76□	0.9962	0.9986	1.0010	1.0034	1.0058	1.0082	1.0106	1.0130	1.0154	1.0179
0.77□	1.0203	1.0228	1.0253	1.0277	1.0302	1.0327	1.0352	1.0378	1.0403	1.0428
0.78□	1.0454	1.0479	1.0505	1.0531	1.0557	1.0583	1.0609	1.0635	1.0661	1.0688
0.79□	1.0714	1.0741	1.0768	1.0795	1.0822	1.0849	1.0876	1.0903	1.0931	1.0958
0.80□	1.0986	1.1014	1.1042	1.1070	1.1098	1.1127	1.1155	1.1184	1.1212	1.1241
0.81□	1.1270	1.1299	1.1329	1.1358	1.1388	1.1417	1.1447	1.1477	1.1507	1.1538
0.82□	1.1568	1.1599	1.1630	1.1660	1.1692	1.1723	1.1754	1.1786	1.1817	1.1849
0.83□	1.1881	1.1914	1.1946	1.1979	1.2011	1.2044	1.2077	1.2111	1.2144	1.2178
0.84□	1.2212	1.2246	1.2280	1.2315	1.2349	1.2384	1.2419	1.2454	1.2490	1.2526
0.85□	1.2562	1.2598	1.2634	1.2671	1.2707	1.2745	1.2782	1.2819	1.2857	1.2895
0.86□	1.2933	1.2972	1.3011	1.3050	1.3089	1.3129	1.3169	1.3209	1.3249	1.3290
0.87□	1.3331	1.3372	1.3414	1.3456	1.3498	1.3540	1.3583	1.3626	1.3670	1.3714
0.88□	1.3758	1.3802	1.3847	1.3892	1.3938	1.3984	1.4030	1.4077	1.4124	1.4171
0.89□	1.4219	1.4268	1.4316	1.4365	1.4415	1.4465	1.4516	1.4566	1.4618	1.4670
0.90□	1.4722	1.4775	1.4828	1.4882	1.4937	1.4992	1.5047	1.5103	1.5160	1.5217
0.91□	1.5275	1.5334	1.5393	1.5453	1.5513	1.5574	1.5636	1.5698	1.5762	1.5826
0.92□	1.5890	1.5956	1.6022	1.6089	1.6157	1.6226	1.6296	1.6366	1.6438	1.6510
0.93□	1.6584	1.6658	1.6734	1.6811	1.6888	1.6967	1.7047	1.7129	1.7211	1.7295
0.94□	1.7380	1.7467	1.7555	1.7645	1.7736	1.7828	1.7923	1.8019	1.8117	1.8216
0.95□	1.8318	1.8421	1.8527	1.8635	1.8745	1.8857	1.8972	1.9090	1.9210	1.9333
0.96□	1.9459	1.9588	1.9721	1.9857	1.9996	2.0139	2.0287	2.0439	2.0595	2.0756
0.97□	2.0923	2.1095	2.1273	2.1457	2.1649	2.1847	2.2054	2.2269	2.2494	2.2729
0.98□	2.2976	2.3235	2.3507	2.3796	2.4101	2.4427	2.4774	2.5147	2.5550	2.5987
0.99□	2.6467	2.6996	2.7587	2.8257	2.9031	2.9945	3.1063	3.2504	3.4534	3.8002

Inverse z-transform

The function tabulated below is the inverse of Fisher's z-transform

$$r(z) \equiv \tanh(z) = \frac{e^{2z}-1}{e^{2z}+1} = \frac{e^{z}-e^{-z}}{e^{z}+e^{-z}} = \frac{\sinh(z)}{\cosh(z)}.$$

	z									
z	□.□0	□.□1	□.□2	□.□3	□.□4	□.□5	□.□6	□.□7	□.□8	□.□9
0.0□	0.0000	0.0100	0.0200	0.0300	0.0400	0.0500	0.0599	0.0699	0.0798	0.0898
0.1□	0.0997	0.1096	0.1194	0.1293	0.1391	0.1489	0.1586	0.1684	0.1781	0.1877
0.2□	0.1974	0.2070	0.2165	0.2260	0.2355	0.2449	0.2543	0.2636	0.2729	0.2821
0.3□	0.2913	0.3004	0.3095	0.3185	0.3275	0.3364	0.3452	0.3540	0.3627	0.3714
0.4□	0.3799	0.3885	0.3969	0.4053	0.4136	0.4219	0.4301	0.4382	0.4462	0.4542
0.5□	0.4621	0.4699	0.4777	0.4854	0.4930	0.5005	0.5080	0.5154	0.5227	0.5299
0.6□	0.5370	0.5441	0.5511	0.5581	0.5649	0.5717	0.5784	0.5850	0.5915	0.5980
0.7□	0.6044	0.6107	0.6169	0.6231	0.6291	0.6351	0.6411	0.6469	0.6527	0.6584
0.8□	0.6640	0.6696	0.6751	0.6805	0.6858	0.6911	0.6963	0.7014	0.7064	0.7114
0.9□	0.7163	0.7211	0.7259	0.7306	0.7352	0.7398	0.7443	0.7487	0.7531	0.7574
1.0□	0.7616	0.7658	0.7699	0.7739	0.7779	0.7818	0.7857	0.7895	0.7932	0.7969
1.1□	0.8005	0.8041	0.8076	0.8110	0.8144	0.8178	0.8210	0.8243	0.8275	0.8306
1.2□	0.8337	0.8367	0.8397	0.8426	0.8455	0.8483	0.8511	0.8538	0.8565	0.8591
1.3□	0.8617	0.8643	0.8668	0.8692	0.8717	0.8741	0.8764	0.8787	0.8810	0.8832
1.4□	0.8854	0.8875	0.8896	0.8917	0.8937	0.8957	0.8977	0.8996	0.9015	0.9033
1.5□	0.9051	0.9069	0.9087	0.9104	0.9121	0.9138	0.9154	0.9170	0.9186	0.9201
1.6□	0.9217	0.9232	0.9246	0.9261	0.9275	0.9289	0.9302	0.9316	0.9329	0.9341
1.7□	0.9354	0.9366	0.9379	0.9391	0.9402	0.9414	0.9425	0.9436	0.9447	0.9458
1.8□	0.9468	0.9478	0.9488	0.9498	0.9508	0.9517	0.9527	0.9536	0.9545	0.9554
1.9□	0.9562	0.9571	0.9579	0.9587	0.9595	0.9603	0.9611	0.9618	0.9626	0.9633
2.0□	0.9640	0.9647	0.9654	0.9661	0.9667	0.9674	0.9680	0.9687	0.9693	0.9699
2.1□	0.9705	0.9710	0.9716	0.9721	0.9727	0.9732	0.9737	0.9743	0.9748	0.9753
2.2□	0.9757	0.9762	0.9767	0.9771	0.9776	0.9780	0.9785	0.9789	0.9793	0.9797
2.3□	0.9801	0.9805	0.9809	0.9812	0.9816	0.9820	0.9823	0.9827	0.9830	0.9833
2.4□	0.9837	0.9840	0.9843	0.9846	0.9849	0.9852	0.9855	0.9858	0.9861	0.9863
2.5□	0.9866	0.9869	0.9871	0.9874	0.9876	0.9879	0.9881	0.9884	0.9886	0.9888
2.6□	0.9890	0.9892	0.9895	0.9897	0.9899	0.9901	0.9903	0.9905	0.9906	0.9908
2.7□	0.9910	0.9912	0.9914	0.9915	0.9917	0.9919	0.9920	0.9922	0.9923	0.9925
2.8□	0.9926	0.9928	0.9929	0.9931	0.9932	0.9933	0.9935	0.9936	0.9937	0.9938
2.9□	0.9940	0.9941	0.9942	0.9943	0.9944	0.9945	0.9946	0.9947	0.9949	0.9950
3.0□	0.9951	0.9952	0.9952	0.9953	0.9954	0.9955	0.9956	0.9957	0.9958	0.9959
3.1□	0.9959	0.9960	0.9961	0.9962	0.9963	0.9963	0.9964	0.9965	0.9965	0.9966
3.2□	0.9967	0.9967	0.9968	0.9969	0.9969	0.9970	0.9971	0.9971	0.9972	0.9972
3.3□	0.9973	0.9973	0.9974	0.9974	0.9975	0.9975	0.9976	0.9976	0.9977	0.9977
3.4□	0.9978	0.9978	0.9979	0.9979	0.9979	0.9980	0.9980	0.9981	0.9981	0.9981
3.5□	0.9982	0.9982	0.9982	0.9983	0.9983	0.9984	0.9984	0.9984	0.9984	0.9985
3.6□	0.9985	0.9985	0.9986	0.9986	0.9986	0.9986	0.9987	0.9987	0.9987	0.9988
3.7□	0.9988	0.9988	0.9988	0.9988	0.9989	0.9989	0.9989	0.9989	0.9990	0.9990
3.8□	0.9990	0.9990	0.9990	0.9991	0.9991	0.9991	0.9991	0.9991	0.9991	0.9992
3.9□	0.9992	0.9992	0.9992	0.9992	0.9992	0.9993	0.9993	0.9993	0.9993	0.9993

These tables were generated from tables.Rnw (r344) on Wed Dec 6 01:07:47 2017 using GNU R 3.4.2 (for the computations) and LaTeX (for the typesetting).