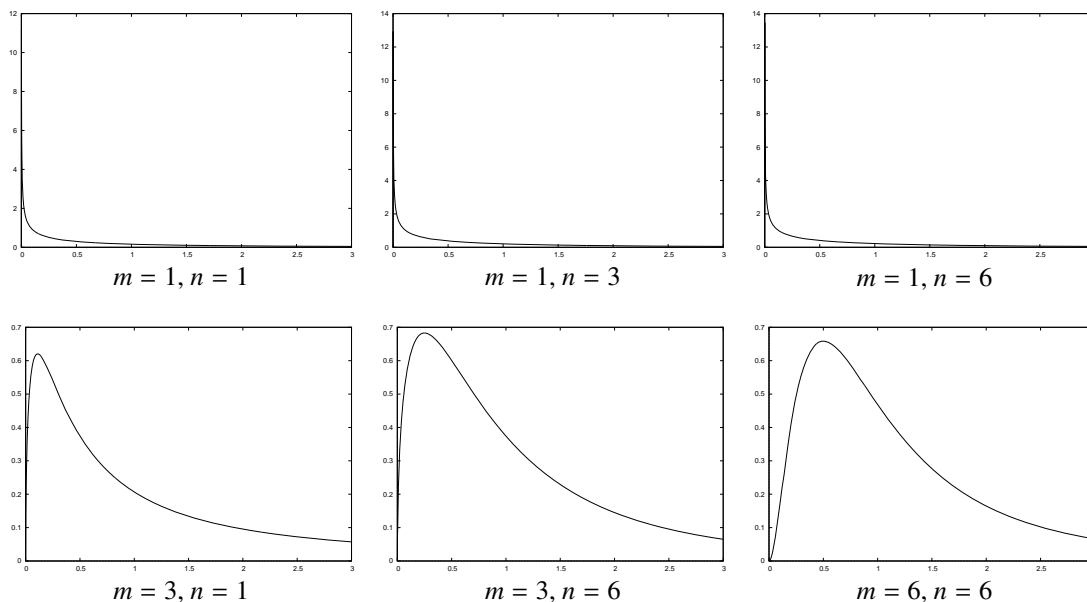


$$f_{m,n}(z) = \frac{m^{\frac{m}{2}} n^{\frac{n}{2}}}{B(\frac{m}{2}, \frac{n}{2})} z^{\frac{m}{2}-1} (mz + n)^{-\frac{m+n}{2}}$$



独立な確率変数 X と Y がそれぞれ自由度 m と n の χ^2 分布に従うとき、 $\frac{X}{m} / \frac{Y}{n}$ は自由度対 (m, n) の F 分布に従う：

$$P\left(a \leq \frac{X}{m} / \frac{Y}{n} \leq b\right) = \int_a^b f_{m,n}(z) dz$$

$$\int_x^\infty f_{m,n}(z) dz = \alpha$$

となる点 x を自由度対 (m, n) の F 分布の 100α パーセント点と呼ぶ。
例えば、

- 自由度対 $(5, 10)$ の F 分布の 5% 点は 3.3258 :

$$\int_{3.3258}^\infty f_{5,10}(z) dz = 0.05$$

- 自由度対 $(30, 20)$ の F 分布の 1% 点は 2.7785 :

$$\int_{2.7785}^\infty f_{30,20}(z) dz = 0.01$$

である。以下の表では (数字が大きすぎるので) $n = 1$ は掲載していない。

Maxima:

```
load(distrib);
```

```
quantile_f(1 - \alpha, m, n);
```

$\alpha = 0.05$										
$n \setminus m$	1	2	3	4	5	6	7	8	9	
2	18.5128	19.0000	19.1643	19.2468	19.2964	19.3295	19.3532	19.3710	19.3848	
3	10.1280	9.5521	9.2766	9.1172	9.0135	8.9406	8.8867	8.8452	8.8123	
4	7.7086	6.9443	6.5914	6.3882	6.2561	6.1631	6.0942	6.0410	5.9988	
5	6.6079	5.7861	5.4095	5.1922	5.0503	4.9503	4.8759	4.8183	4.7725	
6	5.9874	5.1433	4.7571	4.5337	4.3874	4.2839	4.2067	4.1468	4.0990	
7	5.5914	4.7374	4.3468	4.1203	3.9715	3.8660	3.7870	3.7257	3.6767	
8	5.3177	4.4590	4.0662	3.8379	3.6875	3.5806	3.5005	3.4381	3.3881	
9	5.1174	4.2565	3.8625	3.6331	3.4817	3.3738	3.2927	3.2296	3.1789	
10	4.9646	4.1028	3.7083	3.4780	3.3258	3.2172	3.1355	3.0717	3.0204	
11	4.8443	3.9823	3.5874	3.3567	3.2039	3.0946	3.0123	2.9480	2.8962	
12	4.7472	3.8853	3.4903	3.2592	3.1059	2.9961	2.9134	2.8486	2.7964	
13	4.6672	3.8056	3.4105	3.1791	3.0254	2.9153	2.8321	2.7669	2.7144	
14	4.6001	3.7389	3.3439	3.1122	2.9582	2.8477	2.7642	2.6987	2.6458	
15	4.5431	3.6823	3.2874	3.0556	2.9013	2.7905	2.7066	2.6408	2.5876	
16	4.4940	3.6337	3.2389	3.0069	2.8524	2.7413	2.6572	2.5911	2.5377	
17	4.4513	3.5915	3.1968	2.9647	2.8100	2.6987	2.6143	2.5480	2.4943	
18	4.4139	3.5546	3.1599	2.9277	2.7729	2.6613	2.5767	2.5102	2.4563	
19	4.3807	3.5219	3.1274	2.8951	2.7401	2.6283	2.5435	2.4768	2.4227	
20	4.3512	3.4928	3.0984	2.8661	2.7109	2.5990	2.5140	2.4471	2.3928	
21	4.3248	3.4668	3.0725	2.8401	2.6848	2.5727	2.4876	2.4205	2.3660	
22	4.3009	3.4434	3.0491	2.8167	2.6613	2.5491	2.4638	2.3965	2.3419	
23	4.2793	3.4221	3.0280	2.7955	2.6400	2.5277	2.4422	2.3748	2.3201	
24	4.2597	3.4028	3.0088	2.7763	2.6207	2.5082	2.4226	2.3551	2.3002	
25	4.2417	3.3852	2.9912	2.7587	2.6030	2.4904	2.4047	2.3371	2.2821	
26	4.2252	3.3690	2.9752	2.7426	2.5868	2.4741	2.3883	2.3205	2.2655	
27	4.2100	3.3541	2.9604	2.7278	2.5719	2.4591	2.3732	2.3053	2.2501	
28	4.1960	3.3404	2.9467	2.7141	2.5581	2.4453	2.3593	2.2913	2.2360	
29	4.1830	3.3277	2.9340	2.7014	2.5454	2.4324	2.3463	2.2783	2.2229	
30	4.1709	3.3158	2.9223	2.6896	2.5336	2.4205	2.3343	2.2662	2.2107	
40	4.0847	3.2317	2.8387	2.6060	2.4495	2.3359	2.2490	2.1802	2.1240	
50	4.0343	3.1826	2.7900	2.5572	2.4004	2.2864	2.1992	2.1299	2.0734	
60	4.0012	3.1504	2.7581	2.5252	2.3683	2.2541	2.1665	2.0970	2.0401	
70	3.9778	3.1277	2.7355	2.5027	2.3456	2.2312	2.1435	2.0737	2.0166	
80	3.9603	3.1108	2.7188	2.4859	2.3287	2.2142	2.1263	2.0564	1.9991	
90	3.9469	3.0977	2.7058	2.4729	2.3157	2.2011	2.1131	2.0430	1.9856	
100	3.9361	3.0873	2.6955	2.4626	2.3053	2.1906	2.1025	2.0323	1.9748	
120	3.9201	3.0718	2.6802	2.4472	2.2899	2.1750	2.0868	2.0164	1.9588	
240	3.8805	3.0334	2.6422	2.4093	2.2516	2.1365	2.0479	1.9771	1.9190	

$\alpha = 0.05$										
$n \setminus m$	10	12	15	20	24	30	40	60	120	
2	19.3959	19.4125	19.4291	19.4458	19.4541	19.4624	19.4707	19.4791	19.4874	
3	8.7855	8.7446	8.7029	8.6602	8.6385	8.6166	8.5944	8.5720	8.5493	
4	5.9644	5.9117	5.8578	5.8025	5.7744	5.7459	5.7170	5.6877	5.6581	
5	4.7351	4.6777	4.6188	4.5581	4.5272	4.4957	4.4638	4.4314	4.3985	
6	4.0600	3.9999	3.9381	3.8742	3.8415	3.8082	3.7743	3.7398	3.7047	
7	3.6365	3.5747	3.5107	3.4445	3.4105	3.3758	3.3404	3.3043	3.2674	
8	3.3472	3.2839	3.2184	3.1503	3.1152	3.0794	3.0428	3.0053	2.9669	
9	3.1373	3.0729	3.0061	2.9365	2.9005	2.8637	2.8259	2.7872	2.7475	
10	2.9782	2.9130	2.8450	2.7740	2.7372	2.6996	2.6609	2.6211	2.5801	
11	2.8536	2.7876	2.7186	2.6464	2.6090	2.5705	2.5309	2.4901	2.4480	
12	2.7534	2.6866	2.6169	2.5436	2.5055	2.4663	2.4259	2.3842	2.3410	
13	2.6710	2.6037	2.5331	2.4589	2.4202	2.3803	2.3392	2.2966	2.2524	
14	2.6022	2.5342	2.4630	2.3879	2.3487	2.3082	2.2664	2.2229	2.1778	
15	2.5437	2.4753	2.4034	2.3275	2.2878	2.2468	2.2043	2.1601	2.1141	
16	2.4935	2.4247	2.3522	2.2756	2.2354	2.1938	2.1507	2.1058	2.0589	
17	2.4499	2.3807	2.3077	2.2304	2.1898	2.1477	2.1040	2.0584	2.0107	
18	2.4117	2.3421	2.2686	2.1906	2.1497	2.1071	2.0629	2.0166	1.9681	
19	2.3779	2.3080	2.2341	2.1555	2.1141	2.0712	2.0264	1.9795	1.9302	
20	2.3479	2.2776	2.2033	2.1242	2.0825	2.0391	1.9938	1.9464	1.8963	
21	2.3210	2.2504	2.1757	2.0960	2.0540	2.0102	1.9645	1.9165	1.8657	
22	2.2967	2.2258	2.1508	2.0707	2.0283	1.9842	1.9380	1.8894	1.8380	
23	2.2747	2.2036	2.1282	2.0476	2.0050	1.9605	1.9139	1.8648	1.8128	
24	2.2547	2.1834	2.1077	2.0267	1.9838	1.9390	1.8920	1.8424	1.7896	
25	2.2365	2.1649	2.0889	2.0075	1.9643	1.9192	1.8718	1.8217	1.7684	
26	2.2197	2.1479	2.0716	1.9898	1.9464	1.9010	1.8533	1.8027	1.7488	
27	2.2043	2.1323	2.0558	1.9736	1.9299	1.8842	1.8361	1.7851	1.7306	
28	2.1900	2.1179	2.0411	1.9586	1.9147	1.8687	1.8203	1.7689	1.7138	
29	2.1768	2.1045	2.0275	1.9446	1.9005	1.8543	1.8055	1.7537	1.6981	
30	2.1646	2.0921	2.0148	1.9317	1.8874	1.8409	1.7918	1.7396	1.6835	
40	2.0772	2.0035	1.9245	1.8389	1.7929	1.7444	1.6928	1.6373	1.5766	
50	2.0261	1.9515	1.8714	1.7841	1.7371	1.6872	1.6337	1.5757	1.5115	
60	1.9926	1.9174	1.8364	1.7480	1.7001	1.6491	1.5943	1.5343	1.4673	
70	1.9689	1.8932	1.8117	1.7223	1.6738	1.6220	1.5661	1.5046	1.4351	
80	1.9512	1.8753	1.7932	1.7032	1.6542	1.6017	1.5449	1.4821	1.4107	
90	1.9376	1.8613	1.7789	1.6883	1.6389	1.5859	1.5284	1.4645	1.3914	
100	1.9267	1.8503	1.7675	1.6764	1.6267	1.5733	1.5151	1.4504	1.3757	
120	1.9105	1.8337	1.7505	1.6587	1.6084	1.5543	1.4952	1.4290	1.3519	
240	1.8703	1.7927	1.7082	1.6145	1.5628	1.5069	1.4450	1.3746	1.2896	

$\alpha = 0.025$										
$n \backslash m$	1	2	3	4	5	6	7	8	9	
2	38.5063	39.0000	39.1655	39.2484	39.2982	39.3315	39.3552	39.3730	39.3869	
3	17.4434	16.0441	15.4392	15.1010	14.8848	14.7347	14.6244	14.5399	14.4731	
4	12.2179	10.6491	9.9792	9.6045	9.3645	9.1973	9.0741	8.9796	8.9047	
5	10.0070	8.4336	7.7636	7.3879	7.1464	6.9777	6.8531	6.7572	6.6811	
6	8.8131	7.2599	6.5988	6.2272	5.9876	5.8198	5.6955	5.5996	5.5234	
7	8.0727	6.5415	5.8898	5.5226	5.2852	5.1186	4.9949	4.8993	4.8232	
8	7.5709	6.0595	5.4160	5.0526	4.8173	4.6517	4.5286	4.4333	4.3572	
9	7.2093	5.7147	5.0781	4.7181	4.4844	4.3197	4.1970	4.1020	4.0260	
10	6.9367	5.4564	4.8256	4.4683	4.2361	4.0721	3.9498	3.8549	3.7790	
11	6.7241	5.2559	4.6300	4.2751	4.0440	3.8807	3.7586	3.6638	3.5879	
12	6.5538	5.0959	4.4742	4.1212	3.8911	3.7283	3.6065	3.5118	3.4358	
13	6.4143	4.9653	4.3472	3.9959	3.7667	3.6043	3.4827	3.3880	3.3120	
14	6.2979	4.8567	4.2417	3.8919	3.6634	3.5014	3.3799	3.2853	3.2093	
15	6.1995	4.7650	4.1528	3.8043	3.5764	3.4147	3.2934	3.1987	3.1227	
16	6.1151	4.6867	4.0768	3.7294	3.5021	3.3406	3.2194	3.1248	3.0488	
17	6.0420	4.6189	4.0112	3.6648	3.4379	3.2767	3.1556	3.0610	2.9849	
18	5.9781	4.5597	3.9539	3.6083	3.3820	3.2209	3.0999	3.0053	2.9291	
19	5.9216	4.5075	3.9034	3.5587	3.3327	3.1718	3.0509	2.9563	2.8801	
20	5.8715	4.4613	3.8587	3.5147	3.2891	3.1283	3.0074	2.9128	2.8365	
21	5.8266	4.4199	3.8188	3.4754	3.2501	3.0895	2.9686	2.8740	2.7977	
22	5.7863	4.3828	3.7829	3.4401	3.2151	3.0546	2.9338	2.8392	2.7628	
23	5.7498	4.3492	3.7505	3.4083	3.1835	3.0232	2.9023	2.8077	2.7313	
24	5.7166	4.3187	3.7211	3.3794	3.1548	2.9946	2.8738	2.7791	2.7027	
25	5.6864	4.2909	3.6943	3.3530	3.1287	2.9685	2.8478	2.7531	2.6766	
26	5.6586	4.2655	3.6697	3.3289	3.1048	2.9447	2.8240	2.7293	2.6528	
27	5.6331	4.2421	3.6472	3.3067	3.0828	2.9228	2.8021	2.7074	2.6309	
28	5.6096	4.2205	3.6264	3.2863	3.0626	2.9027	2.7820	2.6872	2.6106	
29	5.5878	4.2006	3.6072	3.2674	3.0438	2.8840	2.7633	2.6686	2.5919	
30	5.5675	4.1821	3.5894	3.2499	3.0265	2.8667	2.7460	2.6513	2.5746	
40	5.4239	4.0510	3.4633	3.1261	2.9037	2.7444	2.6238	2.5289	2.4519	
50	5.3403	3.9749	3.3902	3.0544	2.8327	2.6736	2.5530	2.4579	2.3808	
60	5.2856	3.9253	3.3425	3.0077	2.7863	2.6274	2.5068	2.4117	2.3344	
70	5.2470	3.8903	3.3090	2.9748	2.7537	2.5949	2.4743	2.3791	2.3017	
80	5.2184	3.8643	3.2841	2.9504	2.7295	2.5708	2.4502	2.3549	2.2775	
90	5.1962	3.8443	3.2649	2.9315	2.7109	2.5522	2.4316	2.3363	2.2588	
100	5.1786	3.8284	3.2496	2.9166	2.6961	2.5374	2.4168	2.3215	2.2439	
120	5.1523	3.8046	3.2269	2.8943	2.6740	2.5154	2.3948	2.2994	2.2217	
240	5.0875	3.7462	3.1709	2.8395	2.6197	2.4612	2.3406	2.2450	2.1671	

$\alpha = 0.025$									
$n \setminus m$	10	12	15	20	24	30	40	60	120
2	39.3980	39.4146	39.4313	39.4479	39.4562	39.4646	39.4729	39.4812	39.4896
3	14.4189	14.3366	14.2527	14.1674	14.1241	14.0805	14.0365	13.9921	13.9473
4	8.8439	8.7512	8.6565	8.5599	8.5109	8.4613	8.4111	8.3604	8.3092
5	6.6192	6.5245	6.4277	6.3286	6.2780	6.2269	6.1750	6.1225	6.0693
6	5.4613	5.3662	5.2687	5.1684	5.1172	5.0652	5.0125	4.9589	4.9044
7	4.7611	4.6658	4.5678	4.4667	4.4150	4.3624	4.3089	4.2544	4.1989
8	4.2951	4.1997	4.1012	3.9995	3.9472	3.8940	3.8398	3.7844	3.7279
9	3.9639	3.8682	3.7694	3.6669	3.6142	3.5604	3.5055	3.4493	3.3918
10	3.7168	3.6209	3.5217	3.4185	3.3654	3.3110	3.2554	3.1984	3.1399
11	3.5257	3.4296	3.3299	3.2261	3.1725	3.1176	3.0613	3.0035	2.9441
12	3.3736	3.2773	3.1772	3.0728	3.0187	2.9633	2.9063	2.8478	2.7874
13	3.2497	3.1532	3.0527	2.9477	2.8932	2.8372	2.7797	2.7204	2.6590
14	3.1469	3.0502	2.9493	2.8437	2.7888	2.7324	2.6742	2.6142	2.5519
15	3.0602	2.9633	2.8621	2.7559	2.7006	2.6437	2.5850	2.5242	2.4611
16	2.9862	2.8890	2.7875	2.6808	2.6252	2.5678	2.5085	2.4471	2.3831
17	2.9222	2.8249	2.7230	2.6158	2.5598	2.5020	2.4422	2.3801	2.3153
18	2.8664	2.7689	2.6667	2.5590	2.5027	2.4445	2.3842	2.3214	2.2558
19	2.8172	2.7196	2.6171	2.5089	2.4523	2.3937	2.3329	2.2696	2.2032
20	2.7737	2.6758	2.5731	2.4645	2.4076	2.3486	2.2873	2.2234	2.1562
21	2.7348	2.6368	2.5338	2.4247	2.3675	2.3082	2.2465	2.1819	2.1141
22	2.6998	2.6017	2.4984	2.3890	2.3315	2.2718	2.2097	2.1446	2.0760
23	2.6682	2.5699	2.4665	2.3567	2.2989	2.2389	2.1763	2.1107	2.0415
24	2.6396	2.5411	2.4374	2.3273	2.2693	2.2090	2.1460	2.0799	2.0099
25	2.6135	2.5149	2.4110	2.3005	2.2422	2.1816	2.1183	2.0516	1.9811
26	2.5896	2.4908	2.3867	2.2759	2.2174	2.1565	2.0928	2.0257	1.9545
27	2.5676	2.4688	2.3644	2.2533	2.1946	2.1334	2.0693	2.0018	1.9299
28	2.5473	2.4484	2.3438	2.2324	2.1735	2.1121	2.0477	1.9797	1.9072
29	2.5286	2.4295	2.3248	2.2131	2.1540	2.0923	2.0276	1.9591	1.8861
30	2.5112	2.4120	2.3072	2.1952	2.1359	2.0739	2.0089	1.9400	1.8664
40	2.3882	2.2882	2.1819	2.0677	2.0069	1.9429	1.8752	1.8028	1.7242
50	2.3168	2.2162	2.1090	1.9933	1.9313	1.8659	1.7963	1.7211	1.6386
60	2.2702	2.1692	2.0613	1.9445	1.8817	1.8152	1.7440	1.6668	1.5810
70	2.2374	2.1361	2.0277	1.9100	1.8466	1.7792	1.7069	1.6279	1.5394
80	2.2130	2.1115	2.0026	1.8843	1.8204	1.7523	1.6790	1.5987	1.5079
90	2.1942	2.0925	1.9833	1.8644	1.8001	1.7315	1.6574	1.5758	1.4831
100	2.1793	2.0773	1.9679	1.8486	1.7839	1.7148	1.6401	1.5575	1.4631
120	2.1570	2.0548	1.9450	1.8249	1.7597	1.6899	1.6141	1.5299	1.4327
240	2.1021	1.9993	1.8883	1.7664	1.6997	1.6279	1.5491	1.4601	1.3538

$\alpha = 0.01$										
$n \backslash m$	1	2	3	4	5	6	7	8	9	
2	98.5025	99.0000	99.1662	99.2494	99.2993	99.3326	99.3564	99.3742	99.3881	
3	34.1162	30.8165	29.4567	28.7099	28.2371	27.9107	27.6717	27.4892	27.3452	
4	21.1977	18.0000	16.6944	15.9770	15.5219	15.2069	14.9758	14.7989	14.6591	
5	16.2582	13.2739	12.0600	11.3919	10.9670	10.6723	10.4555	10.2893	10.1578	
6	13.7450	10.9248	9.7795	9.1483	8.7459	8.4661	8.2600	8.1017	7.9761	
7	12.2464	9.5466	8.4513	7.8466	7.4604	7.1914	6.9928	6.8400	6.7188	
8	11.2586	8.6491	7.5910	7.0061	6.6318	6.3707	6.1776	6.0289	5.9106	
9	10.5614	8.0215	6.9919	6.4221	6.0569	5.8018	5.6129	5.4671	5.3511	
10	10.0443	7.5594	6.5523	5.9943	5.6363	5.3858	5.2001	5.0567	4.9424	
11	9.6460	7.2057	6.2167	5.6683	5.3160	5.0692	4.8861	4.7445	4.6315	
12	9.3302	6.9266	5.9525	5.4120	5.0643	4.8206	4.6395	4.4994	4.3875	
13	9.0738	6.7010	5.7394	5.2053	4.8616	4.6204	4.4410	4.3021	4.1911	
14	8.8616	6.5149	5.5639	5.0354	4.6950	4.4558	4.2779	4.1399	4.0297	
15	8.6831	6.3589	5.4170	4.8932	4.5556	4.3183	4.1415	4.0045	3.8948	
16	8.5310	6.2262	5.2922	4.7726	4.4374	4.2016	4.0259	3.8896	3.7804	
17	8.3997	6.1121	5.1850	4.6690	4.3359	4.1015	3.9267	3.7910	3.6822	
18	8.2854	6.0129	5.0919	4.5790	4.2479	4.0146	3.8406	3.7054	3.5971	
19	8.1849	5.9259	5.0103	4.5003	4.1708	3.9386	3.7653	3.6305	3.5225	
20	8.0960	5.8489	4.9382	4.4307	4.1027	3.8714	3.6987	3.5644	3.4567	
21	8.0166	5.7804	4.8740	4.3688	4.0421	3.8117	3.6396	3.5056	3.3981	
22	7.9454	5.7190	4.8166	4.3134	3.9880	3.7583	3.5867	3.4530	3.3458	
23	7.8811	5.6637	4.7649	4.2636	3.9392	3.7102	3.5390	3.4057	3.2986	
24	7.8229	5.6136	4.7181	4.2184	3.8951	3.6667	3.4959	3.3629	3.2560	
25	7.7698	5.5680	4.6755	4.1774	3.8550	3.6272	3.4568	3.3239	3.2172	
26	7.7213	5.5263	4.6366	4.1400	3.8183	3.5911	3.4210	3.2884	3.1818	
27	7.6767	5.4881	4.6009	4.1056	3.7848	3.5580	3.3882	3.2558	3.1494	
28	7.6356	5.4529	4.5681	4.0740	3.7539	3.5276	3.3581	3.2259	3.1195	
29	7.5977	5.4204	4.5378	4.0449	3.7254	3.4995	3.3303	3.1982	3.0920	
30	7.5625	5.3903	4.5097	4.0179	3.6990	3.4735	3.3045	3.1726	3.0665	
40	7.3141	5.1785	4.3126	3.8283	3.5138	3.2910	3.1238	2.9930	2.8876	
50	7.1706	5.0566	4.1993	3.7195	3.4077	3.1864	3.0202	2.8900	2.7850	
60	7.0771	4.9774	4.1259	3.6490	3.3389	3.1187	2.9530	2.8233	2.7185	
70	7.0114	4.9219	4.0744	3.5996	3.2907	3.0712	2.9060	2.7765	2.6719	
80	6.9627	4.8807	4.0363	3.5631	3.2550	3.0361	2.8713	2.7420	2.6374	
90	6.9251	4.8491	4.0070	3.5350	3.2276	3.0091	2.8445	2.7154	2.6109	
100	6.8953	4.8239	3.9837	3.5127	3.2059	2.9877	2.8233	2.6943	2.5898	
120	6.8509	4.7865	3.9491	3.4795	3.1735	2.9559	2.7918	2.6629	2.5586	
240	6.7417	4.6947	3.8642	3.3982	3.0943	2.8778	2.7145	2.5860	2.4819	

$\alpha = 0.01$										
$n \setminus m$	10	12	15	20	24	30	40	60	120	
2	99.3992	99.4159	99.4325	99.4492	99.4575	99.4658	99.4742	99.4825	99.4908	
3	27.2287	27.0518	26.8722	26.6898	26.5975	26.5045	26.4108	26.3164	26.2211	
4	14.5459	14.3736	14.1982	14.0196	13.9291	13.8377	13.7454	13.6522	13.5581	
5	10.0510	9.8883	9.7222	9.5526	9.4665	9.3793	9.2912	9.2020	9.1118	
6	7.8741	7.7183	7.5590	7.3958	7.3127	7.2285	7.1432	7.0567	6.9690	
7	6.6201	6.4691	6.3143	6.1554	6.0743	5.9920	5.9084	5.8236	5.7373	
8	5.8143	5.6667	5.5151	5.3591	5.2793	5.1981	5.1156	5.0316	4.9461	
9	5.2565	5.1114	4.9621	4.8080	4.7290	4.6486	4.5666	4.4831	4.3978	
10	4.8491	4.7059	4.5581	4.4054	4.3269	4.2469	4.1653	4.0819	3.9965	
11	4.5393	4.3974	4.2509	4.0990	4.0209	3.9411	3.8596	3.7761	3.6904	
12	4.2961	4.1553	4.0096	3.8584	3.7805	3.7008	3.6192	3.5355	3.4494	
13	4.1003	3.9603	3.8154	3.6646	3.5868	3.5070	3.4253	3.3413	3.2548	
14	3.9394	3.8001	3.6557	3.5052	3.4274	3.3476	3.2656	3.1813	3.0942	
15	3.8049	3.6662	3.5222	3.3719	3.2940	3.2141	3.1319	3.0471	2.9595	
16	3.6909	3.5527	3.4089	3.2587	3.1808	3.1007	3.0182	2.9330	2.8447	
17	3.5931	3.4552	3.3117	3.1615	3.0835	3.0032	2.9205	2.8348	2.7459	
18	3.5082	3.3706	3.2273	3.0771	2.9990	2.9185	2.8354	2.7493	2.6597	
19	3.4338	3.2965	3.1533	3.0031	2.9249	2.8442	2.7608	2.6742	2.5839	
20	3.3682	3.2311	3.0880	2.9377	2.8594	2.7785	2.6947	2.6077	2.5168	
21	3.3098	3.1730	3.0300	2.8796	2.8010	2.7200	2.6359	2.5484	2.4568	
22	3.2576	3.1209	2.9779	2.8274	2.7488	2.6675	2.5831	2.4951	2.4029	
23	3.2106	3.0740	2.9311	2.7805	2.7017	2.6202	2.5355	2.4471	2.3542	
24	3.1681	3.0316	2.8887	2.7380	2.6591	2.5773	2.4923	2.4035	2.3100	
25	3.1294	2.9931	2.8502	2.6993	2.6203	2.5383	2.4530	2.3637	2.2696	
26	3.0941	2.9578	2.8150	2.6640	2.5848	2.5026	2.4170	2.3273	2.2325	
27	3.0618	2.9256	2.7827	2.6316	2.5522	2.4699	2.3840	2.2938	2.1985	
28	3.0320	2.8959	2.7530	2.6017	2.5223	2.4397	2.3535	2.2629	2.1670	
29	3.0045	2.8685	2.7256	2.5742	2.4946	2.4118	2.3253	2.2344	2.1379	
30	2.9791	2.8431	2.7002	2.5487	2.4689	2.3860	2.2992	2.2079	2.1108	
40	2.8005	2.6648	2.5216	2.3689	2.2880	2.2034	2.1142	2.0194	1.9172	
50	2.6981	2.5625	2.4190	2.2652	2.1835	2.0976	2.0066	1.9090	1.8026	
60	2.6318	2.4961	2.3523	2.1978	2.1154	2.0285	1.9360	1.8363	1.7263	
70	2.5852	2.4496	2.3055	2.1504	2.0674	1.9797	1.8861	1.7846	1.6717	
80	2.5508	2.4151	2.2709	2.1153	2.0318	1.9435	1.8489	1.7459	1.6305	
90	2.5243	2.3886	2.2442	2.0882	2.0044	1.9155	1.8201	1.7158	1.5982	
100	2.5033	2.3676	2.2230	2.0666	1.9826	1.8933	1.7972	1.6918	1.5723	
120	2.4721	2.3363	2.1915	2.0346	1.9500	1.8600	1.7628	1.6557	1.5330	
240	2.3955	2.2595	2.1141	1.9556	1.8697	1.7777	1.6774	1.5651	1.4322	

$\alpha = 0.005$										
$n \backslash m$	1	2	3	4	5	6	7	8	9	
2	198.5013	199.0000	199.1664	199.2497	199.2996	199.3330	199.3568	199.3746	199.3885	
3	55.5520	49.7993	47.4672	46.1946	45.3916	44.8385	44.4341	44.1256	43.8824	
4	31.3328	26.2843	24.2591	23.1545	22.4564	21.9746	21.6217	21.3520	21.1391	
5	22.7848	18.3138	16.5298	15.5561	14.9396	14.5133	14.2004	13.9610	13.7716	
6	18.6350	14.5441	12.9166	12.0275	11.4637	11.0730	10.7859	10.5658	10.3915	
7	16.2356	12.4040	10.8824	10.0505	9.5221	9.1553	8.8854	8.6781	8.5138	
8	14.6882	11.0424	9.5965	8.8051	8.3018	7.9520	7.6941	7.4959	7.3386	
9	13.6136	10.1067	8.7171	7.9559	7.4712	7.1339	6.8849	6.6933	6.5411	
10	12.8265	9.4270	8.0807	7.3428	6.8724	6.5446	6.3025	6.1159	5.9676	
11	12.2263	8.9122	7.6004	6.8809	6.4217	6.1016	5.8648	5.6821	5.5368	
12	11.7542	8.5096	7.2258	6.5211	6.0711	5.7570	5.5245	5.3451	5.2021	
13	11.3735	8.1865	6.9258	6.2335	5.7910	5.4819	5.2529	5.0761	4.9351	
14	11.0603	7.9216	6.6804	5.9984	5.5623	5.2574	5.0313	4.8566	4.7173	
15	10.7980	7.7008	6.4760	5.8029	5.3721	5.0708	4.8473	4.6744	4.5364	
16	10.5755	7.5138	6.3034	5.6378	5.2117	4.9134	4.6920	4.5207	4.3838	
17	10.3842	7.3536	6.1556	5.4967	5.0746	4.7789	4.5594	4.3894	4.2535	
18	10.2181	7.2148	6.0278	5.3746	4.9560	4.6627	4.4448	4.2759	4.1410	
19	10.0725	7.0935	5.9161	5.2681	4.8526	4.5614	4.3448	4.1770	4.0428	
20	9.9439	6.9865	5.8177	5.1743	4.7616	4.4721	4.2569	4.0900	3.9564	
21	9.8295	6.8914	5.7304	5.0911	4.6809	4.3931	4.1789	4.0128	3.8799	
22	9.7271	6.8064	5.6524	5.0168	4.6088	4.3225	4.1094	3.9440	3.8116	
23	9.6348	6.7300	5.5823	4.9500	4.5441	4.2591	4.0469	3.8822	3.7502	
24	9.5513	6.6609	5.5190	4.8898	4.4857	4.2019	3.9905	3.8264	3.6949	
25	9.4753	6.5982	5.4615	4.8351	4.4327	4.1500	3.9394	3.7758	3.6447	
26	9.4059	6.5409	5.4091	4.7852	4.3844	4.1027	3.8928	3.7297	3.5989	
27	9.3423	6.4885	5.3611	4.7396	4.3402	4.0594	3.8501	3.6875	3.5571	
28	9.2838	6.4403	5.3170	4.6977	4.2996	4.0197	3.8110	3.6487	3.5186	
29	9.2297	6.3958	5.2764	4.6591	4.2622	3.9831	3.7749	3.6131	3.4832	
30	9.1797	6.3547	5.2388	4.6234	4.2276	3.9492	3.7416	3.5801	3.4505	
40	8.8279	6.0664	4.9758	4.3738	3.9860	3.7129	3.5088	3.3498	3.2220	
50	8.6258	5.9016	4.8259	4.2316	3.8486	3.5785	3.3765	3.2189	3.0920	
60	8.4946	5.7950	4.7290	4.1399	3.7599	3.4918	3.2911	3.1344	3.0083	
70	8.4027	5.7204	4.6613	4.0758	3.6980	3.4313	3.2315	3.0755	2.9498	
80	8.3346	5.6652	4.6113	4.0285	3.6524	3.3867	3.1876	3.0320	2.9066	
90	8.2822	5.6228	4.5728	3.9922	3.6173	3.3524	3.1538	2.9986	2.8735	
100	8.2406	5.5892	4.5424	3.9634	3.5895	3.3252	3.1271	2.9722	2.8472	
120	8.1788	5.5393	4.4972	3.9207	3.5482	3.2849	3.0874	2.9330	2.8083	
240	8.0271	5.4170	4.3866	3.8162	3.4475	3.1865	2.9906	2.8371	2.7131	

$\alpha = 0.005$									
$n \setminus m$	10	12	15	20	24	30	40	60	120
2	199.3996	199.4163	199.4329	199.4496	199.4579	199.4663	199.4746	199.4829	199.4912
3	43.6858	43.3874	43.0847	42.7775	42.6222	42.4658	42.3082	42.1494	41.9895
4	20.9667	20.7047	20.4383	20.1673	20.0300	19.8915	19.7518	19.6107	19.4684
5	13.6182	13.3845	13.1463	12.9035	12.7802	12.6556	12.5297	12.4024	12.2737
6	10.2500	10.0343	9.8140	9.5888	9.4742	9.3582	9.2408	9.1219	9.0015
7	8.3803	8.1764	7.9678	7.7540	7.6450	7.5345	7.4224	7.3088	7.1933
8	7.2106	7.0149	6.8143	6.6082	6.5029	6.3961	6.2875	6.1772	6.0649
9	6.4172	6.2274	6.0325	5.8318	5.7292	5.6248	5.5186	5.4104	5.3001
10	5.8467	5.6613	5.4707	5.2740	5.1732	5.0706	4.9659	4.8592	4.7501
11	5.4183	5.2363	5.0489	4.8552	4.7557	4.6543	4.5508	4.4450	4.3367
12	5.0855	4.9062	4.7213	4.5299	4.4314	4.3309	4.2282	4.1229	4.0149
13	4.8199	4.6429	4.4600	4.2703	4.1726	4.0727	3.9704	3.8655	3.7577
14	4.6034	4.4281	4.2468	4.0585	3.9614	3.8619	3.7600	3.6552	3.5473
15	4.4235	4.2497	4.0698	3.8826	3.7859	3.6867	3.5850	3.4803	3.3722
16	4.2719	4.0994	3.9205	3.7342	3.6378	3.5389	3.4372	3.3324	3.2240
17	4.1424	3.9709	3.7929	3.6073	3.5112	3.4124	3.3108	3.2058	3.0971
18	4.0305	3.8599	3.6827	3.4977	3.4017	3.3030	3.2014	3.0962	2.9871
19	3.9329	3.7631	3.5866	3.4020	3.3062	3.2075	3.1058	3.0004	2.8908
20	3.8470	3.6779	3.5020	3.3178	3.2220	3.1234	3.0215	2.9159	2.8058
21	3.7709	3.6024	3.4270	3.2431	3.1474	3.0488	2.9467	2.8408	2.7302
22	3.7030	3.5350	3.3600	3.1764	3.0807	2.9821	2.8799	2.7736	2.6625
23	3.6420	3.4745	3.2999	3.1165	3.0208	2.9221	2.8197	2.7132	2.6015
24	3.5870	3.4199	3.2456	3.0624	2.9667	2.8679	2.7654	2.6585	2.5463
25	3.5370	3.3704	3.1963	3.0133	2.9176	2.8187	2.7160	2.6088	2.4961
26	3.4916	3.3252	3.1515	2.9685	2.8728	2.7738	2.6709	2.5633	2.4501
27	3.4499	3.2839	3.1104	2.9275	2.8318	2.7327	2.6296	2.5217	2.4079
28	3.4117	3.2460	3.0727	2.8899	2.7941	2.6949	2.5916	2.4834	2.3690
29	3.3765	3.2110	3.0379	2.8551	2.7594	2.6600	2.5565	2.4479	2.3331
30	3.3440	3.1787	3.0057	2.8230	2.7272	2.6278	2.5241	2.4151	2.2998
40	3.1167	2.9531	2.7811	2.5984	2.5020	2.4015	2.2958	2.1838	2.0636
50	2.9875	2.8247	2.6531	2.4702	2.3732	2.2717	2.1644	2.0499	1.9254
60	2.9042	2.7419	2.5705	2.3872	2.2898	2.1874	2.0789	1.9622	1.8341
70	2.8460	2.6840	2.5127	2.3291	2.2313	2.1283	2.0186	1.9002	1.7691
80	2.8031	2.6413	2.4700	2.2862	2.1881	2.0845	1.9739	1.8540	1.7203
90	2.7701	2.6085	2.4373	2.2532	2.1548	2.0507	1.9394	1.8182	1.6822
100	2.7440	2.5825	2.4113	2.2270	2.1283	2.0239	1.9119	1.7896	1.6516
120	2.7052	2.5439	2.3727	2.1881	2.0890	1.9840	1.8709	1.7469	1.6055
240	2.6105	2.4496	2.2783	2.0927	1.9925	1.8856	1.7695	1.6401	1.4879

$\alpha = 0.001$										
$n \backslash m$	1	2	3	4	5	6	7	8	9	
2	998.5002	999.0000	999.1666	999.2499	999.2999	999.3333	999.3571	999.3749	999.3888	
3	167.0292	148.5000	141.1085	137.1004	134.5800	132.8475	131.5829	130.6190	129.8600	
4	74.1373	61.2456	56.1772	53.4358	51.7116	50.5250	49.6579	48.9962	48.4745	
5	47.1808	37.1223	33.2025	31.0850	29.7524	28.8344	28.1626	27.6495	27.2445	
6	35.5075	27.0000	23.7033	21.9235	20.8027	20.0297	19.4634	19.0303	18.6882	
7	29.2452	21.6890	18.7723	17.1980	16.2058	15.5208	15.0186	14.6340	14.3299	
8	25.4148	18.4937	15.8295	14.3916	13.4847	12.8580	12.3980	12.0455	11.7665	
9	22.8571	16.3871	13.9018	12.5603	11.7137	11.1281	10.6979	10.3680	10.1066	
10	21.0396	14.9054	12.5527	11.2828	10.4807	9.9256	9.5175	9.2041	8.9558	
11	19.6868	13.8116	11.5611	10.3461	9.5784	9.0466	8.6553	8.3548	8.1163	
12	18.6433	12.9737	10.8042	9.6327	8.8921	8.3788	8.0009	7.7104	7.4797	
13	17.8154	12.3127	10.2089	9.0727	8.3541	7.8557	7.4886	7.2061	6.9818	
14	17.1434	11.7789	9.7294	8.6223	7.9218	7.4358	7.0775	6.8017	6.5826	
15	16.5874	11.3391	9.3353	8.2527	7.5674	7.0917	6.7408	6.4707	6.2559	
16	16.1202	10.9710	9.0059	7.9442	7.2719	6.8049	6.4604	6.1950	5.9839	
17	15.7222	10.6584	8.7269	7.6831	7.0219	6.5625	6.2234	5.9620	5.7541	
18	15.3793	10.3899	8.4875	7.4593	6.8078	6.3550	6.0206	5.7628	5.5575	
19	15.0808	10.1568	8.2799	7.2655	6.6225	6.1754	5.8452	5.5904	5.3876	
20	14.8188	9.9526	8.0984	7.0960	6.4606	6.0186	5.6920	5.4400	5.2392	
21	14.5869	9.7723	7.9383	6.9467	6.3179	5.8805	5.5571	5.3076	5.1087	
22	14.3803	9.6120	7.7960	6.8142	6.1914	5.7580	5.4376	5.1901	4.9929	
23	14.1950	9.4685	7.6688	6.6957	6.0783	5.6486	5.3308	5.0853	4.8896	
24	14.0280	9.3394	7.5545	6.5892	5.9768	5.5504	5.2349	4.9912	4.7968	
25	13.8767	9.2225	7.4511	6.4931	5.8851	5.4617	5.1484	4.9063	4.7131	
26	13.7390	9.1163	7.3572	6.4057	5.8018	5.3812	5.0698	4.8292	4.6372	
27	13.6131	9.0194	7.2715	6.3261	5.7259	5.3078	4.9983	4.7590	4.5680	
28	13.4976	8.9305	7.1931	6.2532	5.6565	5.2407	4.9328	4.6947	4.5047	
29	13.3912	8.8488	7.1210	6.1863	5.5927	5.1791	4.8727	4.6358	4.4466	
30	13.2930	8.7734	7.0545	6.1245	5.5339	5.1223	4.8173	4.5814	4.3930	
40	12.6094	8.2508	6.5945	5.6981	5.1283	4.7306	4.4355	4.2070	4.0243	
50	12.2221	7.9564	6.3364	5.4593	4.9013	4.5117	4.2224	3.9980	3.8185	
60	11.9730	7.7678	6.1712	5.3067	4.7565	4.3721	4.0864	3.8648	3.6873	
70	11.7993	7.6366	6.0566	5.2008	4.6561	4.2753	3.9922	3.7725	3.5964	
80	11.6714	7.5401	5.9723	5.1231	4.5824	4.2043	3.9232	3.7049	3.5298	
90	11.5732	7.4661	5.9078	5.0636	4.5260	4.1500	3.8703	3.6531	3.4789	
100	11.4954	7.4077	5.8568	5.0167	4.4815	4.1071	3.8286	3.6123	3.4387	
120	11.3802	7.3211	5.7814	4.9472	4.4157	4.0437	3.7670	3.5519	3.3792	
240	11.0991	7.1104	5.5981	4.7785	4.2560	3.8901	3.6175	3.4055	3.2352	

$\alpha = 0.001$									
$n \setminus m$	10	12	15	20	24	30	40	60	120
2	999.3999	999.4166	999.4333	999.4499	999.4583	999.4666	999.4749	999.4833	999.4917
3	129.2467	128.3165	127.3736	126.4178	125.9349	125.4486	124.9590	124.4658	123.9692
4	48.0526	47.4118	46.7612	46.1003	45.7658	45.4286	45.0886	44.7457	44.3998
5	26.9166	26.4180	25.9108	25.3946	25.1329	24.8688	24.6020	24.3326	24.0605
6	18.4109	17.9888	17.5587	17.1201	16.8974	16.6722	16.4445	16.2143	15.9812
7	14.0833	13.7073	13.3237	12.9316	12.7322	12.5304	12.3260	12.1189	11.9090
8	11.5401	11.1945	10.8413	10.4797	10.2954	10.1087	9.9194	9.7272	9.5321
9	9.8943	9.5700	9.2381	8.8976	8.7239	8.5476	8.3685	8.1865	8.0014
10	8.7539	8.4452	8.1288	7.8037	7.6376	7.4688	7.2971	7.1224	6.9443
11	7.9224	7.6256	7.3210	7.0076	6.8471	6.6839	6.5178	6.3483	6.1753
12	7.2920	7.0046	6.7092	6.4048	6.2488	6.0898	5.9278	5.7623	5.5931
13	6.7992	6.5192	6.2312	5.9340	5.7814	5.6258	5.4670	5.3046	5.1381
14	6.4041	6.1302	5.8483	5.5568	5.4070	5.2542	5.0979	4.9378	4.7735
15	6.0808	5.8121	5.5351	5.2484	5.1009	4.9502	4.7959	4.6377	4.4750
16	5.8117	5.5473	5.2745	4.9918	4.8462	4.6972	4.5446	4.3878	4.2263
17	5.5844	5.3237	5.0544	4.7751	4.6311	4.4836	4.3323	4.1767	4.0160
18	5.3900	5.1324	4.8663	4.5899	4.4471	4.3009	4.1507	3.9960	3.8360
19	5.2219	4.9672	4.7037	4.4297	4.2881	4.1429	3.9936	3.8396	3.6801
20	5.0752	4.8229	4.5618	4.2900	4.1493	4.0050	3.8564	3.7030	3.5438
21	4.9462	4.6960	4.4369	4.1670	4.0272	3.8836	3.7357	3.5827	3.4237
22	4.8317	4.5835	4.3262	4.0579	3.9189	3.7759	3.6285	3.4759	3.3170
23	4.7296	4.4831	4.2274	3.9606	3.8222	3.6798	3.5328	3.3804	3.2216
24	4.6379	4.3929	4.1387	3.8732	3.7354	3.5935	3.4468	3.2946	3.1357
25	4.5551	4.3116	4.0587	3.7944	3.6570	3.5155	3.3692	3.2171	3.0581
26	4.4801	4.2378	3.9861	3.7228	3.5859	3.4448	3.2987	3.1467	2.9875
27	4.4117	4.1706	3.9200	3.6576	3.5211	3.3803	3.2344	3.0825	2.9231
28	4.3491	4.1091	3.8595	3.5980	3.4618	3.3213	3.1755	3.0236	2.8640
29	4.2917	4.0526	3.8039	3.5432	3.4074	3.2671	3.1215	2.9695	2.8097
30	4.2388	4.0006	3.7527	3.4928	3.3572	3.2171	3.0716	2.9196	2.7595
40	3.8744	3.6425	3.4003	3.1450	3.0111	2.8721	2.7268	2.5737	2.4103
50	3.6711	3.4426	3.2035	2.9506	2.8175	2.6787	2.5329	2.3782	2.2113
60	3.5415	3.3153	3.0781	2.8266	2.6938	2.5549	2.4086	2.2523	2.0821
70	3.4517	3.2271	2.9912	2.7405	2.6079	2.4689	2.3220	2.1643	1.9912
80	3.3859	3.1624	2.9274	2.6774	2.5448	2.4057	2.2582	2.0992	1.9235
90	3.3356	3.1129	2.8787	2.6291	2.4965	2.3572	2.2092	2.0491	1.8712
100	3.2959	3.0739	2.8402	2.5909	2.4584	2.3189	2.1704	2.0094	1.8294
120	3.2372	3.0162	2.7833	2.5344	2.4019	2.2621	2.1128	1.9502	1.7667
240	3.0949	2.8763	2.6453	2.3973	2.2646	2.1237	1.9720	1.8043	1.6093

この表は試験時に持参してかまいません。