

**LIITE 3.1. STANDARDOITU NORMAALIJAKAUMA  $N(0,1)$ .**
**Kertymäfunktion  $\Phi(z)$  arvoja argumentin  $z$  eri arvoilla.**

$z$	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
-0.0	.5000	.4960	.4920	.4880	.4840	.4801	.4761	.4721	.4681	.4641
-0.1	.4602	.4562	.4522	.4483	.4443	.4404	.4364	.4325	.4286	.4247
-0.2	.4207	.4168	.4129	.4090	.4052	.4013	.3974	.3936	.3897	.3859
-0.3	.3821	.3783	.3745	.3707	.3669	.3632	.3594	.3557	.3520	.3483
-0.4	.3446	.3409	.3372	.3336	.3300	.3264	.3228	.3192	.3156	.3121
-0.5	.3085	.3050	.3015	.2981	.2946	.2912	.2877	.2843	.2810	.2776
-0.6	.2743	.2709	.2676	.2643	.2611	.2578	.2546	.2514	.2483	.2451
-0.7	.2420	.2389	.2358	.2327	.2296	.2266	.2236	.2206	.2177	.2148
-0.8	.2119	.2090	.2061	.2033	.2005	.1977	.1949	.1922	.1894	.1867
-0.9	.1841	.1814	.1788	.1762	.1736	.1711	.1685	.1660	.1635	.1611
-1.0	.1587	.1562	.1539	.1515	.1492	.1469	.1446	.1423	.1401	.1379
-1.1	.1357	.1335	.1314	.1292	.1271	.1251	.1230	.1210	.1190	.1170
-1.2	.1151	.1131	.1112	.1093	.1075	.1056	.1038	.1020	.1003	.0985
-1.3	.0968	.0951	.0934	.0918	.0901	.0885	.0869	.0853	.0838	.0823
-1.4	.0808	.0793	.0778	.0764	.0749	.0735	.0721	.0708	.0694	.0681
-1.5	.0668	.0655	.0643	.0630	.0618	.0606	.0594	.0582	.0571	.0559
-1.6	.0548	.0537	.0526	.0516	.0505	.0495	.0485	.0475	.0465	.0455
-1.7	.0446	.0436	.0427	.0418	.0409	.0401	.0392	.0384	.0375	.0367
-1.8	.0359	.0351	.0344	.0336	.0329	.0322	.0314	.0307	.0301	.0294
-1.9	.0287	.0281	.0274	.0268	.0262	.0256	.0250	.0244	.0239	.0233
-2.0	.0228	.0222	.0217	.0212	.0207	.0202	.0197	.0192	.0188	.0183
-2.1	.0179	.0174	.0170	.0166	.0162	.0158	.0154	.0150	.0146	.0143
-2.2	.0139	.0136	.0132	.0129	.0125	.0122	.0119	.0116	.0113	.0110
-2.3	.0107	.0104	.0102	.0099	.0096	.0094	.0091	.0089	.0087	.0084
-2.4	.0082	.0080	.0078	.0075	.0073	.0071	.0069	.0068	.0066	.0064
-2.5	.0062	.0060	.0059	.0057	.0055	.0054	.0052	.0051	.0049	.0048
-2.6	.0047	.0045	.0044	.0043	.0041	.0040	.0039	.0038	.0037	.0036
-2.7	.0035	.0034	.0033	.0032	.0031	.0030	.0029	.0028	.0027	.0026
-2.8	.0026	.0025	.0024	.0023	.0023	.0022	.0021	.0021	.0020	.0019
-2.9	.0019	.0018	.0018	.0017	.0016	.0016	.0015	.0015	.0014	.0014
-3.0	.0013	.0013	.0013	.0012	.0012	.0011	.0011	.0011	.0010	.0010
-3.1	.0010	.0009	.0009	.0009	.0008	.0008	.0008	.0008	.0007	.0007
-3.2	.0007	.0007	.0006	.0006	.0006	.0006	.0006	.0005	.0005	.0005
-3.3	.0005	.0005	.0005	.0004	.0004	.0004	.0004	.0004	.0004	.0003
-3.4	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0002
-3.5	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002

**Esimerkki:** Jos  $z = -2.23$ , niin  $\Phi(z) = 0.0129$ .

**LIITE 3.2. STANDARDOITU NORMAALIJAKAUMA  $N(0,1)$ .**
**Kertymäfunktion  $\Phi(z)$  arvoja argumentin  $z$  eri arvoilla.**

<b>z</b>	<b>0.00</b>	<b>0.01</b>	<b>0.02</b>	<b>0.03</b>	<b>0.04</b>	<b>0.05</b>	<b>0.06</b>	<b>0.07</b>	<b>0.08</b>	<b>0.09</b>
<b>0.0</b>	.5000	.5040	.5080	.5120	.5160	.5199	.5239	.5279	.5319	.5359
<b>0.1</b>	.5398	.5438	.5478	.5517	.5557	.5596	.5636	.5675	.5714	.5753
<b>0.2</b>	.5793	.5832	.5871	.5910	.5948	.5987	.6026	.6064	.6103	.6141
<b>0.3</b>	.6179	.6217	.6255	.6293	.6331	.6368	.6406	.6443	.6480	.6517
<b>0.4</b>	.6554	.6591	.6628	.6664	.6700	.6736	.6772	.6808	.6844	.6879
<b>0.5</b>	.6915	.6950	.6985	.7019	.7054	.7088	.7123	.7157	.7190	.7224
<b>0.6</b>	.7257	.7291	.7324	.7357	.7389	.7422	.7454	.7486	.7517	.7549
<b>0.7</b>	.7580	.7611	.7642	.7673	.7704	.7734	.7764	.7794	.7823	.7852
<b>0.8</b>	.7881	.7910	.7939	.7967	.7995	.8023	.8051	.8078	.8106	.8133
<b>0.9</b>	.8159	.8186	.8212	.8238	.8264	.8289	.8315	.8340	.8365	.8389
<b>1.0</b>	.8413	.8438	.8461	.8485	.8508	.8531	.8554	.8577	.8599	.8621
<b>1.1</b>	.8643	.8665	.8686	.8708	.8729	.8749	.8770	.8790	.8810	.8830
<b>1.2</b>	.8849	.8869	.8888	.8907	.8925	.8944	.8962	.8980	.8997	.9015
<b>1.3</b>	.9032	.9049	.9066	.9082	.9099	.9115	.9131	.9147	.9162	.9177
<b>1.4</b>	.9192	.9207	.9222	.9236	.9251	.9265	.9279	.9292	.9306	.9319
<b>1.5</b>	.9332	.9345	.9357	.9370	.9382	.9394	.9406	.9418	.9429	.9441
<b>1.6</b>	.9452	.9463	.9474	.9484	.9495	.9505	.9515	.9525	.9535	.9545
<b>1.7</b>	.9554	.9564	.9573	.9582	.9591	.9599	.9608	.9616	.9625	.9633
<b>1.8</b>	.9641	.9649	.9656	.9664	.9671	.9678	.9686	.9693	.9699	.9706
<b>1.9</b>	.9713	.9719	.9726	.9732	.9738	.9744	.9750	.9756	.9761	.9767
<b>2.0</b>	.9772	.9778	.9783	.9788	.9793	.9798	.9803	.9808	.9812	.9817
<b>2.1</b>	.9821	.9826	.9830	.9834	.9838	.9842	.9846	.9850	.9854	.9857
<b>2.2</b>	.9861	.9864	.9868	.9871	.9875	.9878	.9881	.9884	.9887	.9890
<b>2.3</b>	.9893	.9896	.9898	.9901	.9904	.9906	.9909	.9911	.9913	.9916
<b>2.4</b>	.9918	.9920	.9922	.9925	.9927	.9929	.9931	.9932	.9934	.9936
<b>2.5</b>	.9938	.9940	.9941	.9943	.9945	.9946	.9948	.9949	.9951	.9952
<b>2.6</b>	.9953	.9955	.9956	.9957	.9959	.9960	.9961	.9962	.9963	.9964
<b>2.7</b>	.9965	.9966	.9967	.9968	.9969	.9970	.9971	.9972	.9973	.9974
<b>2.8</b>	.9974	.9975	.9976	.9977	.9977	.9978	.9979	.9979	.9980	.9981
<b>2.9</b>	.9981	.9982	.9982	.9983	.9984	.9984	.9985	.9985	.9986	.9986
<b>3.0</b>	.9987	.9987	.9987	.9988	.9988	.9989	.9989	.9989	.9990	.9990
<b>3.1</b>	.9990	.9991	.9991	.9991	.9992	.9992	.9992	.9992	.9993	.9993
<b>3.2</b>	.9993	.9993	.9994	.9994	.9994	.9994	.9994	.9995	.9995	.9995
<b>3.3</b>	.9995	.9995	.9995	.9996	.9996	.9996	.9996	.9996	.9996	.9997
<b>3.4</b>	.9997	.9997	.9997	.9997	.9997	.9997	.9997	.9997	.9997	.9998
<b>3.5</b>	.9998	.9998	.9998	.9998	.9998	.9998	.9998	.9998	.9998	.9998

**Esimerkki:** Jos  $z = +0.49$ , niin  $\Phi(z) = 0.6879$ .

**LIITE 4. STUDENTIN t-JAKAUMA.**
**Kriittisiä arvoja eri merkitsevyystasojen ja vapausasteiden f arvoilla.**

<b>Merkitsevyystaso yksisuuntaisessa testissä</b>						
<b>f</b>	<b>0.05</b>	<b>0.025</b>	<b>0.01</b>	<b>0.005</b>	<b>0.001</b>	<b>0.0005</b>
1	6.314	12.706	31.821	63.657	318.309	636.619
2	2.920	4.303	6.965	9.925	22.327	31.599
3	2.353	3.182	4.541	5.841	10.215	12.924
4	2.132	2.776	3.747	4.604	7.173	8.610
5	2.015	2.571	3.365	4.032	5.893	6.869
6	1.943	2.447	3.143	3.707	5.208	5.959
7	1.895	2.365	2.998	3.499	4.785	5.408
8	1.860	2.306	2.896	3.355	4.501	5.041
9	1.833	2.262	2.821	3.250	4.297	4.781
10	1.812	2.228	2.764	3.169	4.144	4.587
11	1.796	2.201	2.718	3.106	4.025	4.437
12	1.782	2.179	2.681	3.055	3.930	4.318
13	1.771	2.160	2.650	3.012	3.852	4.221
14	1.761	2.145	2.624	2.977	3.787	4.140
15	1.753	2.131	2.602	2.947	3.733	4.073
16	1.746	2.120	2.583	2.921	3.686	4.015
17	1.740	2.110	2.567	2.898	3.646	3.965
18	1.734	2.101	2.552	2.878	3.610	3.922
19	1.729	2.093	2.539	2.861	3.579	3.883
20	1.725	2.086	2.528	2.845	3.552	3.850
21	1.721	2.080	2.518	2.831	3.527	3.819
22	1.717	2.074	2.508	2.819	3.505	3.792
23	1.714	2.069	2.500	2.807	3.485	3.768
24	1.711	2.064	2.492	2.797	3.467	3.745
25	1.708	2.060	2.485	2.787	3.450	3.725
26	1.706	2.056	2.479	2.779	3.435	3.707
27	1.703	2.052	2.473	2.771	3.421	3.690
28	1.701	2.048	2.467	2.763	3.408	3.674
29	1.699	2.045	2.462	2.756	3.396	3.659
30	1.697	2.042	2.457	2.750	3.385	3.646
40	1.684	2.021	2.423	2.704	3.307	3.551
50	1.676	2.009	2.403	2.678	3.261	3.496
60	1.671	2.000	2.390	2.660	3.232	3.460
80	1.664	1.990	2.374	2.639	3.195	3.416
100	1.660	1.984	2.364	2.626	3.174	3.390
200	1.653	1.972	2.345	2.601	3.131	3.340
500	1.648	1.965	2.334	2.586	3.107	3.310
∞	1.645	1.960	2.326	2.576	3.090	3.291
<b>f</b>	<b>0.10</b>	<b>0.05</b>	<b>0.02</b>	<b>0.01</b>	<b>0.002</b>	<b>0.001</b>
<b>Merkitsevyystaso kaksisuuntaisessa testissä</b>						

**LIITE 5.  $\chi^2$ -JAKAUMA.**

Yksisuuntaiseen testiin liittyviä kriittisiä arvoja eri merkitsevyystasojen ja vapausasteiden f arvoilla.

f	Merkitsevyystaso yksisuuntaisessa testissä					
	0.99	0.95	0.10	0.05	0.01	0.001
1	0.000	0.004	2.706	3.841	6.635	10.828
2	0.020	0.103	4.605	5.991	9.210	13.816
3	0.115	0.352	6.251	7.815	11.345	16.266
4	0.297	0.711	7.779	9.488	13.277	18.467
5	0.554	1.145	9.236	11.070	15.086	20.515
6	0.872	1.635	10.645	12.592	16.812	22.458
7	1.239	2.167	12.017	14.067	18.475	24.322
8	1.646	2.733	13.362	15.507	20.090	26.124
9	2.088	3.325	14.684	16.919	21.666	27.877
10	2.558	3.940	15.987	18.307	23.209	29.588
11	3.053	4.575	17.275	19.675	24.725	31.264
12	3.571	5.226	18.549	21.026	26.217	32.909
13	4.107	5.892	19.812	22.362	27.688	34.528
14	4.660	6.571	21.064	23.685	29.141	36.123
15	5.229	7.261	22.307	24.996	30.578	37.697
16	5.812	7.962	23.542	26.296	32.000	39.252
17	6.408	8.672	24.769	27.587	33.409	40.790
18	7.015	9.390	25.989	28.869	34.805	42.312
19	7.633	10.117	27.204	30.144	36.191	43.820
20	8.260	10.851	28.412	31.410	37.566	45.315
21	8.897	11.591	29.615	32.671	38.932	46.797
22	9.542	12.338	30.813	33.924	40.289	48.268
23	10.196	13.091	32.007	35.172	41.638	49.728
24	10.856	13.848	33.196	36.415	42.980	51.179
25	11.524	14.611	34.382	37.652	44.314	52.620
26	12.198	15.379	35.563	38.885	45.642	54.052
27	12.879	16.151	36.741	40.113	46.963	55.476
28	13.565	16.928	37.916	41.337	48.278	56.892
29	14.256	17.708	39.087	42.557	49.588	58.301
30	14.953	18.493	40.256	43.773	50.892	59.703
40	22.164	26.509	51.805	55.758	63.691	73.402
50	29.707	34.764	63.167	67.505	76.154	86.661
60	37.485	43.188	74.397	79.082	88.379	99.607
70	45.442	51.739	85.527	90.531	100.425	112.317
80	53.540	60.391	96.578	101.879	112.329	124.839
90	61.754	69.126	107.565	113.145	124.116	137.208
100	70.065	77.929	118.498	124.342	135.807	149.449
200	156.432	168.279	226.021	233.994	249.445	267.541
500	429.388	449.147	540.930	553.127	576.493	603.446

## LIITE 6.1.1. F-JAKAUMA.

Yksisuuntaiseen testiin liittyviä kriittisiä arvoja 5%:n merkitsevyystasolla ja eri vapausasteiden  $f_1$  ja  $f_2$  arvoilla.

$f_2$	$f_1$									
	1	2	3	4	5	6	7	8	9	10
1	161.448	199.500	215.707	224.583	230.162	233.986	236.768	238.883	240.543	241.882
2	18.513	19.000	19.164	19.247	19.296	19.330	19.353	19.371	19.385	19.396
3	10.128	9.552	9.277	9.117	9.013	8.941	8.887	8.845	8.812	8.786
4	7.709	6.944	6.591	6.388	6.256	6.163	6.094	6.041	5.999	5.964
5	6.608	5.786	5.409	5.192	5.050	4.950	4.876	4.818	4.772	4.735
6	5.987	5.143	4.757	4.534	4.387	4.284	4.207	4.147	4.099	4.060
7	5.591	4.737	4.347	4.120	3.972	3.866	3.787	3.726	3.677	3.637
8	5.318	4.459	4.066	3.838	3.687	3.581	3.500	3.438	3.388	3.347
9	5.117	4.256	3.863	3.633	3.482	3.374	3.293	3.230	3.179	3.137
10	4.965	4.103	3.708	3.478	3.326	3.217	3.135	3.072	3.020	2.978
11	4.844	3.982	3.587	3.357	3.204	3.095	3.012	2.948	2.896	2.854
12	4.747	3.885	3.490	3.259	3.106	2.996	2.913	2.849	2.796	2.753
13	4.667	3.806	3.411	3.179	3.025	2.915	2.832	2.767	2.714	2.671
14	4.600	3.739	3.344	3.112	2.958	2.848	2.764	2.699	2.646	2.602
15	4.543	3.682	3.287	3.056	2.901	2.790	2.707	2.641	2.588	2.544
16	4.494	3.634	3.239	3.007	2.852	2.741	2.657	2.591	2.538	2.494
17	4.451	3.592	3.197	2.965	2.810	2.699	2.614	2.548	2.494	2.450
18	4.414	3.555	3.160	2.928	2.773	2.661	2.577	2.510	2.456	2.412
19	4.381	3.522	3.127	2.895	2.740	2.628	2.544	2.477	2.423	2.378
20	4.351	3.493	3.098	2.866	2.711	2.599	2.514	2.447	2.393	2.348
21	4.325	3.467	3.072	2.840	2.685	2.573	2.488	2.420	2.366	2.321
22	4.301	3.443	3.049	2.817	2.661	2.549	2.464	2.397	2.342	2.297
23	4.279	3.422	3.028	2.796	2.640	2.528	2.442	2.375	2.320	2.275
24	4.260	3.403	3.009	2.776	2.621	2.508	2.423	2.355	2.300	2.255
25	4.242	3.385	2.991	2.759	2.603	2.490	2.405	2.337	2.282	2.236
26	4.225	3.369	2.975	2.743	2.587	2.474	2.388	2.321	2.265	2.220
27	4.210	3.354	2.960	2.728	2.572	2.459	2.373	2.305	2.250	2.204
28	4.196	3.340	2.947	2.714	2.558	2.445	2.359	2.291	2.236	2.190
29	4.183	3.328	2.934	2.701	2.545	2.432	2.346	2.278	2.223	2.177
30	4.171	3.316	2.922	2.690	2.534	2.421	2.334	2.266	2.211	2.165
40	4.085	3.232	2.839	2.606	2.449	2.336	2.249	2.180	2.124	2.077
50	4.034	3.183	2.790	2.557	2.400	2.286	2.199	2.130	2.073	2.026
60	4.001	3.150	2.758	2.525	2.368	2.254	2.167	2.097	2.040	1.993
70	3.978	3.128	2.736	2.503	2.346	2.231	2.143	2.074	2.017	1.969
80	3.960	3.111	2.719	2.486	2.329	2.214	2.126	2.056	1.999	1.951
90	3.947	3.098	2.706	2.473	2.316	2.201	2.113	2.043	1.986	1.938
100	3.936	3.087	2.696	2.463	2.305	2.191	2.103	2.032	1.975	1.927
200	3.888	3.041	2.650	2.417	2.259	2.144	2.056	1.985	1.927	1.878
500	3.860	3.014	2.623	2.390	2.232	2.117	2.028	1.957	1.899	1.850
$\infty$	3.841	2.996	2.605	2.372	2.214	2.099	2.010	1.938	1.880	1.831

## LIITE 6.1.2. F-JAKAUMA.

Yksisuuntaiseen testiin liittyviä kriittisiä arvoja 5%:n merkitsevyystasolla ja eri vapausasteiden  $f_1$  ja  $f_2$  arvoilla (jatkoa).

$f_2$	$f_1$									
	12	15	20	25	30	40	60	80	120	$\infty$
1	243.906	245.950	248.013	249.260	250.095	251.143	252.196	252.724	253.253	254.314
2	19.413	19.429	19.446	19.456	19.462	19.471	19.479	19.483	19.487	19.496
3	8.745	8.703	8.660	8.634	8.617	8.594	8.572	8.561	8.549	8.526
4	5.912	5.858	5.803	5.769	5.746	5.717	5.688	5.673	5.658	5.628
5	4.678	4.619	4.558	4.521	4.496	4.464	4.431	4.415	4.398	4.365
6	4.000	3.938	3.874	3.835	3.808	3.774	3.740	3.722	3.705	3.669
7	3.575	3.511	3.445	3.404	3.376	3.340	3.304	3.286	3.267	3.230
8	3.284	3.218	3.150	3.108	3.079	3.043	3.005	2.986	2.967	2.928
9	3.073	3.006	2.936	2.893	2.864	2.826	2.787	2.768	2.748	2.707
10	2.913	2.845	2.774	2.730	2.700	2.661	2.621	2.601	2.580	2.538
11	2.788	2.719	2.646	2.601	2.570	2.531	2.490	2.469	2.448	2.404
12	2.687	2.617	2.544	2.498	2.466	2.426	2.384	2.363	2.341	2.296
13	2.604	2.533	2.459	2.412	2.380	2.339	2.297	2.275	2.252	2.206
14	2.534	2.463	2.388	2.341	2.308	2.266	2.223	2.201	2.178	2.131
15	2.475	2.403	2.328	2.280	2.247	2.204	2.160	2.137	2.114	2.066
16	2.425	2.352	2.276	2.227	2.194	2.151	2.106	2.083	2.059	2.010
17	2.381	2.308	2.230	2.181	2.148	2.104	2.058	2.035	2.011	1.960
18	2.342	2.269	2.191	2.141	2.107	2.063	2.017	1.993	1.968	1.917
19	2.308	2.234	2.155	2.106	2.071	2.026	1.980	1.955	1.930	1.878
20	2.278	2.203	2.124	2.074	2.039	1.994	1.946	1.922	1.896	1.843
21	2.250	2.176	2.096	2.045	2.010	1.965	1.916	1.891	1.866	1.812
22	2.226	2.151	2.071	2.020	1.984	1.938	1.889	1.864	1.838	1.783
23	2.204	2.128	2.048	1.996	1.961	1.914	1.865	1.839	1.813	1.757
24	2.183	2.108	2.027	1.975	1.939	1.892	1.842	1.816	1.790	1.733
25	2.165	2.089	2.007	1.955	1.919	1.872	1.822	1.796	1.768	1.711
26	2.148	2.072	1.990	1.938	1.901	1.853	1.803	1.776	1.749	1.691
27	2.132	2.056	1.974	1.921	1.884	1.836	1.785	1.758	1.731	1.672
28	2.118	2.041	1.959	1.906	1.869	1.820	1.769	1.742	1.714	1.654
29	2.104	2.027	1.945	1.891	1.854	1.806	1.754	1.726	1.698	1.638
30	2.092	2.015	1.932	1.878	1.841	1.792	1.740	1.712	1.683	1.622
40	2.003	1.924	1.839	1.783	1.744	1.693	1.637	1.608	1.577	1.509
50	1.952	1.871	1.784	1.727	1.687	1.634	1.576	1.544	1.511	1.438
60	1.917	1.836	1.748	1.690	1.649	1.594	1.534	1.502	1.467	1.389
70	1.893	1.812	1.722	1.664	1.622	1.566	1.505	1.471	1.435	1.353
80	1.875	1.793	1.703	1.644	1.602	1.545	1.482	1.448	1.411	1.325
90	1.861	1.779	1.688	1.629	1.586	1.528	1.465	1.429	1.391	1.302
100	1.850	1.768	1.676	1.616	1.573	1.515	1.450	1.415	1.376	1.283
200	1.801	1.717	1.623	1.561	1.516	1.455	1.386	1.346	1.302	1.189
500	1.772	1.686	1.592	1.528	1.482	1.419	1.345	1.303	1.255	1.113
$\infty$	1.752	1.666	1.571	1.506	1.459	1.394	1.318	1.274	1.221	1.003

## LIITE 6.1.3. F-JAKAUMA.

Yksisuuntaiseen testiin liittyviä kriittisiä arvoja 1%:n merkitsevyystasolla ja eri vapausasteiden  $f_1$  ja  $f_2$  arvoilla.

$f_2$	$f_1$									
	1	2	3	4	5	6	7	8	9	10
1	4052.2	4999.5	5403.4	5624.6	5763.7	5859.0	5928.4	5981.1	6022.5	6055.9
2	98.503	99.000	99.166	99.249	99.299	99.333	99.356	99.374	99.388	99.399
3	34.116	30.817	29.457	28.710	28.237	27.911	27.672	27.489	27.345	27.229
4	21.198	18.000	16.694	15.977	15.522	15.207	14.976	14.799	14.659	14.546
5	16.258	13.274	12.060	11.392	10.967	10.672	10.456	10.289	10.158	10.051
6	13.745	10.925	9.780	9.148	8.746	8.466	8.260	8.102	7.976	7.874
7	12.246	9.547	8.451	7.847	7.460	7.191	6.993	6.840	6.719	6.620
8	11.259	8.649	7.591	7.006	6.632	6.371	6.178	6.029	5.911	5.814
9	10.561	8.022	6.992	6.422	6.057	5.802	5.613	5.467	5.351	5.257
10	10.044	7.559	6.552	5.994	5.636	5.386	5.200	5.057	4.942	4.849
11	9.646	7.206	6.217	5.668	5.316	5.069	4.886	4.744	4.632	4.539
12	9.330	6.927	5.953	5.412	5.064	4.821	4.640	4.499	4.388	4.296
13	9.074	6.701	5.739	5.205	4.862	4.620	4.441	4.302	4.191	4.100
14	8.862	6.515	5.564	5.035	4.695	4.456	4.278	4.140	4.030	3.939
15	8.683	6.359	5.417	4.893	4.556	4.318	4.142	4.004	3.895	3.805
16	8.531	6.226	5.292	4.773	4.437	4.202	4.026	3.890	3.780	3.691
17	8.400	6.112	5.185	4.669	4.336	4.102	3.927	3.791	3.682	3.593
18	8.285	6.013	5.092	4.579	4.248	4.015	3.841	3.705	3.597	3.508
19	8.185	5.926	5.010	4.500	4.171	3.939	3.765	3.631	3.523	3.434
20	8.096	5.849	4.938	4.431	4.103	3.871	3.699	3.564	3.457	3.368
21	8.017	5.780	4.874	4.369	4.042	3.812	3.640	3.506	3.398	3.310
22	7.945	5.719	4.817	4.313	3.988	3.758	3.587	3.453	3.346	3.258
23	7.881	5.664	4.765	4.264	3.939	3.710	3.539	3.406	3.299	3.211
24	7.823	5.614	4.718	4.218	3.895	3.667	3.496	3.363	3.256	3.168
25	7.770	5.568	4.675	4.177	3.855	3.627	3.457	3.324	3.217	3.129
26	7.721	5.526	4.637	4.140	3.818	3.591	3.421	3.288	3.182	3.094
27	7.677	5.488	4.601	4.106	3.785	3.558	3.388	3.256	3.149	3.062
28	7.636	5.453	4.568	4.074	3.754	3.528	3.358	3.226	3.120	3.032
29	7.598	5.420	4.538	4.045	3.725	3.499	3.330	3.198	3.092	3.005
30	7.562	5.390	4.510	4.018	3.699	3.473	3.304	3.173	3.067	2.979
40	7.314	5.179	4.313	3.828	3.514	3.291	3.124	2.993	2.888	2.801
50	7.171	5.057	4.199	3.720	3.408	3.186	3.020	2.890	2.785	2.698
60	7.077	4.977	4.126	3.649	3.339	3.119	2.953	2.823	2.718	2.632
70	7.011	4.922	4.074	3.600	3.291	3.071	2.906	2.777	2.672	2.585
80	6.963	4.881	4.036	3.563	3.255	3.036	2.871	2.742	2.637	2.551
90	6.925	4.849	4.007	3.535	3.228	3.009	2.845	2.715	2.611	2.524
100	6.895	4.824	3.984	3.513	3.206	2.988	2.823	2.694	2.590	2.503
200	6.763	4.713	3.881	3.414	3.110	2.893	2.730	2.601	2.497	2.411
500	6.686	4.648	3.821	3.357	3.054	2.838	2.675	2.547	2.443	2.356
$\infty$	6.635	4.605	3.782	3.319	3.017	2.802	2.639	2.511	2.407	2.321

## LIITE 6.1.4. F-JAKAUMA.

Yksisuuntaiseen testiin liittyviä kriittisiä arvoja 1%:n merkitsevyystasolla ja eri vapausasteiden  $f_1$  ja  $f_2$  arvoilla.

$f_2$	$f_1$									
	12	15	20	25	30	40	60	80	120	$\infty$
1	6106.3	6157.3	6208.7	6239.8	6260.6	6286.8	6313.0	6326.2	6339.4	6365.9
2	99.416	99.433	99.449	99.459	99.466	99.474	99.482	99.487	99.491	99.499
3	27.052	26.872	26.690	26.579	26.505	26.411	26.316	26.269	26.221	26.125
4	14.374	14.198	14.020	13.911	13.838	13.745	13.652	13.605	13.558	13.463
5	9.888	9.722	9.553	9.449	9.379	9.291	9.202	9.157	9.112	9.020
6	7.718	7.559	7.396	7.296	7.229	7.143	7.057	7.013	6.969	6.880
7	6.469	6.314	6.155	6.058	5.992	5.908	5.824	5.781	5.737	5.650
8	5.667	5.515	5.359	5.263	5.198	5.116	5.032	4.989	4.946	4.859
9	5.111	4.962	4.808	4.713	4.649	4.567	4.483	4.441	4.398	4.311
10	4.706	4.558	4.405	4.311	4.247	4.165	4.082	4.039	3.996	3.909
11	4.397	4.251	4.099	4.005	3.941	3.860	3.776	3.734	3.690	3.602
12	4.155	4.010	3.858	3.765	3.701	3.619	3.535	3.493	3.449	3.361
13	3.960	3.815	3.665	3.571	3.507	3.425	3.341	3.298	3.255	3.165
14	3.800	3.656	3.505	3.412	3.348	3.266	3.181	3.138	3.094	3.004
15	3.666	3.522	3.372	3.278	3.214	3.132	3.047	3.004	2.959	2.868
16	3.553	3.409	3.259	3.165	3.101	3.018	2.933	2.889	2.845	2.753
17	3.455	3.312	3.162	3.068	3.003	2.920	2.835	2.791	2.746	2.653
18	3.371	3.227	3.077	2.983	2.919	2.835	2.749	2.705	2.660	2.566
19	3.297	3.153	3.003	2.909	2.844	2.761	2.674	2.630	2.584	2.489
20	3.231	3.088	2.938	2.843	2.778	2.695	2.608	2.563	2.517	2.421
21	3.173	3.030	2.880	2.785	2.720	2.636	2.548	2.503	2.457	2.360
22	3.121	2.978	2.827	2.733	2.667	2.583	2.495	2.450	2.403	2.305
23	3.074	2.931	2.781	2.686	2.620	2.535	2.447	2.401	2.354	2.256
24	3.032	2.889	2.738	2.643	2.577	2.492	2.403	2.357	2.310	2.211
25	2.993	2.850	2.699	2.604	2.538	2.453	2.364	2.317	2.270	2.169
26	2.958	2.815	2.664	2.569	2.503	2.417	2.327	2.281	2.233	2.131
27	2.926	2.783	2.632	2.536	2.470	2.384	2.294	2.247	2.198	2.097
28	2.896	2.753	2.602	2.506	2.440	2.354	2.263	2.216	2.167	2.064
29	2.868	2.726	2.574	2.478	2.412	2.325	2.234	2.187	2.138	2.034
30	2.843	2.700	2.549	2.453	2.386	2.299	2.208	2.160	2.111	2.006
40	2.665	2.522	2.369	2.271	2.203	2.114	2.019	1.969	1.917	1.805
50	2.562	2.419	2.265	2.167	2.098	2.007	1.909	1.857	1.803	1.683
60	2.496	2.352	2.198	2.098	2.028	1.936	1.836	1.783	1.726	1.601
70	2.450	2.306	2.150	2.050	1.980	1.886	1.785	1.730	1.672	1.540
80	2.415	2.271	2.115	2.015	1.944	1.849	1.746	1.690	1.630	1.494
90	2.389	2.244	2.088	1.987	1.916	1.820	1.716	1.659	1.598	1.457
100	2.368	2.223	2.067	1.965	1.893	1.797	1.692	1.634	1.572	1.427
200	2.275	2.129	1.971	1.868	1.794	1.694	1.583	1.521	1.453	1.279
500	2.220	2.075	1.915	1.810	1.735	1.633	1.517	1.452	1.377	1.164
$\infty$	2.185	2.039	1.878	1.773	1.696	1.592	1.473	1.404	1.325	1.005