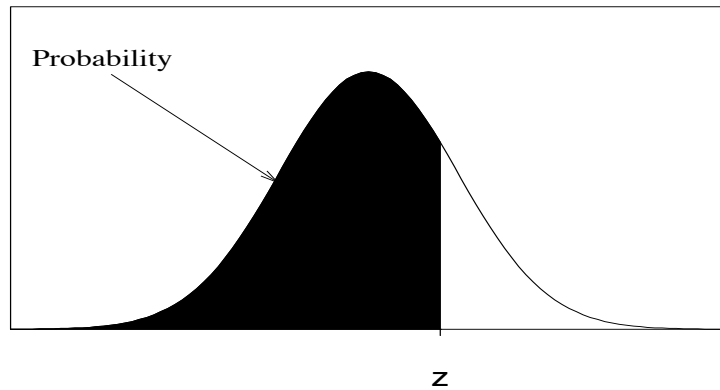


Probabilities for the standard normal distribution

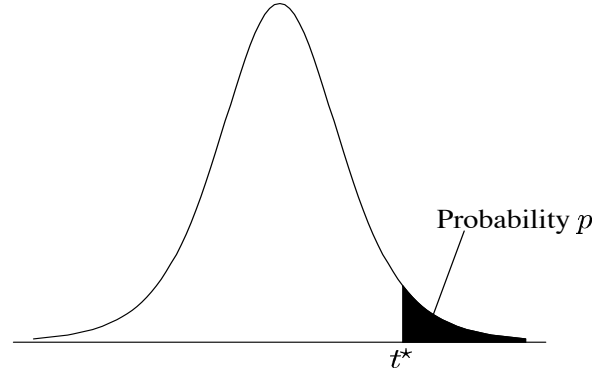
Table entry for z is the probability lying to the left of z



z	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
0.0	0.5000	0.5040	0.5080	0.5120	0.5160	0.5199	0.5239	0.5279	0.5319	0.5359
0.1	0.5398	0.5438	0.5478	0.5517	0.5557	0.5596	0.5636	0.5675	0.5714	0.5753
0.2	0.5793	0.5832	0.5871	0.5910	0.5948	0.5987	0.6026	0.6064	0.6103	0.6141
0.3	0.6179	0.6217	0.6255	0.6293	0.6331	0.6368	0.6406	0.6443	0.6480	0.6517
0.4	0.6554	0.6591	0.6628	0.6664	0.6700	0.6736	0.6772	0.6808	0.6844	0.6879
0.5	0.6915	0.6950	0.6985	0.7019	0.7054	0.7088	0.7123	0.7157	0.7190	0.7224
0.6	0.7257	0.7291	0.7324	0.7357	0.7389	0.7422	0.7454	0.7486	0.7517	0.7549
0.7	0.7580	0.7611	0.7642	0.7673	0.7704	0.7734	0.7764	0.7794	0.7823	0.7852
0.8	0.7881	0.7910	0.7939	0.7967	0.7995	0.8023	0.8051	0.8078	0.8106	0.8133
0.9	0.8159	0.8186	0.8212	0.8238	0.8264	0.8289	0.8315	0.8340	0.8365	0.8389
1.0	0.8413	0.8438	0.8461	0.8485	0.8508	0.8531	0.8554	0.8577	0.8599	0.8621
1.1	0.8643	0.8665	0.8686	0.8708	0.8729	0.8749	0.8770	0.8790	0.8810	0.8830
1.2	0.8849	0.8869	0.8888	0.8907	0.8925	0.8944	0.8962	0.8980	0.8997	0.9015
1.3	0.9032	0.9049	0.9066	0.9082	0.9099	0.9115	0.9131	0.9147	0.9162	0.9177
1.4	0.9192	0.9207	0.9222	0.9236	0.9251	0.9265	0.9279	0.9292	0.9306	0.9319
1.5	0.9332	0.9345	0.9357	0.9370	0.9382	0.9394	0.9406	0.9418	0.9429	0.9441
1.6	0.9452	0.9463	0.9474	0.9484	0.9495	0.9505	0.9515	0.9525	0.9535	0.9545
1.7	0.9554	0.9564	0.9573	0.9582	0.9591	0.9599	0.9608	0.9616	0.9625	0.9633
1.8	0.9641	0.9649	0.9656	0.9664	0.9671	0.9678	0.9686	0.9693	0.9699	0.9706
1.9	0.9713	0.9719	0.9726	0.9732	0.9738	0.9744	0.9750	0.9756	0.9761	0.9767
2.0	0.9772	0.9778	0.9783	0.9788	0.9793	0.9798	0.9803	0.9808	0.9812	0.9817
2.1	0.9821	0.9826	0.9830	0.9834	0.9838	0.9842	0.9846	0.9850	0.9854	0.9857
2.2	0.9861	0.9864	0.9868	0.9871	0.9875	0.9878	0.9881	0.9884	0.9887	0.9890
2.3	0.9893	0.9896	0.9898	0.9901	0.9904	0.9906	0.9909	0.9911	0.9913	0.9916
2.4	0.9918	0.9920	0.9922	0.9925	0.9927	0.9929	0.9931	0.9932	0.9934	0.9936
2.5	0.9938	0.9940	0.9941	0.9943	0.9945	0.9946	0.9948	0.9949	0.9951	0.9952
2.6	0.9953	0.9955	0.9956	0.9957	0.9959	0.9960	0.9961	0.9962	0.9963	0.9964
2.7	0.9965	0.9966	0.9967	0.9968	0.9969	0.9970	0.9971	0.9972	0.9973	0.9974
2.8	0.9974	0.9975	0.9976	0.9977	0.9977	0.9978	0.9979	0.9979	0.9980	0.9981
2.9	0.9981	0.9982	0.9982	0.9983	0.9984	0.9984	0.9985	0.9985	0.9986	0.9986
3.0	0.9987	0.9987	0.9987	0.9988	0.9988	0.9989	0.9989	0.9989	0.9990	0.9990
3.1	0.9990	0.9991	0.9991	0.9991	0.9992	0.9992	0.9992	0.9992	0.9993	0.9993
3.2	0.9993	0.9993	0.9994	0.9994	0.9994	0.9994	0.9994	0.9995	0.9995	0.9995
3.3	0.9995	0.9995	0.9995	0.9996	0.9996	0.9996	0.9996	0.9996	0.9996	0.9997
3.4	0.9997	0.9997	0.9997	0.9997	0.9997	0.9997	0.9997	0.9997	0.9997	0.9998

Probabilities for the t -distribution

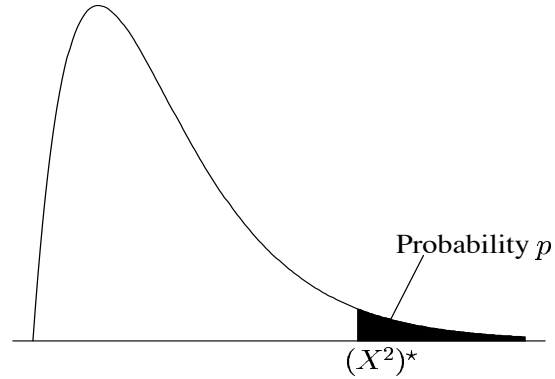
Table entry for p and C is the point t^* with probability p lying above it and probability C lying between $-t^*$ and t^*



df	Tail probability p											
	.25	.2	.15	.1	.05	.025	.02	.01	.005	.0025	.001	.0005
1	1.000	1.376	1.963	3.078	6.314	12.706	15.895	31.821	63.657	127.321	318.309	636.619
2	0.816	1.061	1.386	1.886	2.920	4.303	4.849	6.965	9.925	14.089	22.327	31.599
3	0.765	0.978	1.250	1.638	2.353	3.182	3.482	4.541	5.841	7.453	10.215	12.924
4	0.741	0.941	1.190	1.533	2.132	2.776	2.999	3.747	4.604	5.598	7.173	8.610
5	0.727	0.920	1.156	1.476	2.015	2.571	2.757	3.365	4.032	4.773	5.893	6.869
6	0.718	0.906	1.134	1.440	1.943	2.447	2.612	3.143	3.707	4.317	5.208	5.959
7	0.711	0.896	1.119	1.415	1.895	2.365	2.517	2.998	3.499	4.029	4.785	5.408
8	0.706	0.889	1.108	1.397	1.860	2.306	2.449	2.896	3.355	3.833	4.501	5.041
9	0.703	0.883	1.100	1.383	1.833	2.262	2.398	2.821	3.250	3.690	4.297	4.781
10	0.700	0.879	1.093	1.372	1.812	2.228	2.359	2.764	3.169	3.581	4.144	4.587
11	0.697	0.876	1.088	1.363	1.796	2.201	2.328	2.718	3.106	3.497	4.025	4.437
12	0.695	0.873	1.083	1.356	1.782	2.179	2.303	2.681	3.055	3.428	3.930	4.318
13	0.694	0.870	1.079	1.350	1.771	2.160	2.282	2.650	3.012	3.372	3.852	4.221
14	0.692	0.868	1.076	1.345	1.761	2.145	2.264	2.624	2.977	3.326	3.787	4.140
15	0.691	0.866	1.074	1.341	1.753	2.131	2.249	2.602	2.947	3.286	3.733	4.073
16	0.690	0.865	1.071	1.337	1.746	2.120	2.235	2.583	2.921	3.252	3.686	4.015
17	0.689	0.863	1.069	1.333	1.740	2.110	2.224	2.567	2.898	3.222	3.646	3.965
18	0.688	0.862	1.067	1.330	1.734	2.101	2.214	2.552	2.878	3.197	3.610	3.922
19	0.688	0.861	1.066	1.328	1.729	2.093	2.205	2.539	2.861	3.174	3.579	3.883
20	0.687	0.860	1.064	1.325	1.725	2.086	2.197	2.528	2.845	3.153	3.552	3.850
21	0.686	0.859	1.063	1.323	1.721	2.080	2.189	2.518	2.831	3.135	3.527	3.819
22	0.686	0.858	1.061	1.321	1.717	2.074	2.183	2.508	2.819	3.119	3.505	3.792
23	0.685	0.858	1.060	1.319	1.714	2.069	2.177	2.500	2.807	3.104	3.485	3.768
24	0.685	0.857	1.059	1.318	1.711	2.064	2.172	2.492	2.797	3.091	3.467	3.745
25	0.684	0.856	1.058	1.316	1.708	2.060	2.167	2.485	2.787	3.078	3.450	3.725
26	0.684	0.856	1.058	1.315	1.706	2.056	2.162	2.479	2.779	3.067	3.435	3.707
27	0.684	0.855	1.057	1.314	1.703	2.052	2.158	2.473	2.771	3.057	3.421	3.690
28	0.683	0.855	1.056	1.313	1.701	2.048	2.154	2.467	2.763	3.047	3.408	3.674
29	0.683	0.854	1.055	1.311	1.699	2.045	2.150	2.462	2.756	3.038	3.396	3.659
30	0.683	0.854	1.055	1.310	1.697	2.042	2.147	2.457	2.750	3.030	3.385	3.646
40	0.681	0.851	1.050	1.303	1.684	2.021	2.123	2.423	2.704	2.971	3.307	3.551
50	0.679	0.849	1.047	1.299	1.676	2.009	2.109	2.403	2.678	2.937	3.261	3.496
60	0.679	0.848	1.045	1.296	1.671	2.000	2.099	2.390	2.660	2.915	3.232	3.460
80	0.678	0.846	1.043	1.292	1.664	1.990	2.088	2.374	2.639	2.887	3.195	3.416
100	0.677	0.845	1.042	1.290	1.660	1.984	2.081	2.364	2.626	2.871	3.174	3.390
1000	0.675	0.842	1.037	1.282	1.646	1.962	2.056	2.330	2.581	2.813	3.098	3.300
∞	0.674	0.842	1.036	1.282	1.645	1.960	2.054	2.326	2.576	2.807	3.090	3.291
	50%	60%	70 %	80%	90%	95%	96%	98%	99%	99.5%	99.8%	99.9%
	Confidence level C											

Probabilities for the χ^2 -distribution

Table entry for p is the point $(X^2)^*$ with probability p lying above it



df	Tail probability p											
	.25	.2	.15	.1	.05	.025	.02	.01	.005	.0025	.001	.0005
1	1.32	1.64	2.07	2.71	3.84	5.02	5.41	6.63	7.88	9.14	10.83	12.12
2	2.77	3.22	3.79	4.61	5.99	7.38	7.82	9.21	10.60	11.98	13.82	15.20
3	4.11	4.64	5.32	6.25	7.81	9.35	9.84	11.34	12.84	14.32	16.27	17.73
4	5.39	5.99	6.74	7.78	9.49	11.14	11.67	13.28	14.86	16.42	18.47	20.00
5	6.63	7.29	8.12	9.24	11.07	12.83	13.39	15.09	16.75	18.39	20.52	22.11
6	7.84	8.56	9.45	10.64	12.59	14.45	15.03	16.81	18.55	20.25	22.46	24.10
7	9.04	9.80	10.75	12.02	14.07	16.01	16.62	18.48	20.28	22.04	24.32	26.02
8	10.22	11.03	12.03	13.36	15.51	17.53	18.17	20.09	21.95	23.77	26.12	27.87
9	11.39	12.24	13.29	14.68	16.92	19.02	19.68	21.67	23.59	25.46	27.88	29.67
10	12.55	13.44	14.53	15.99	18.31	20.48	21.16	23.21	25.19	27.11	29.59	31.42
11	13.70	14.63	15.77	17.28	19.68	21.92	22.62	24.72	26.76	28.73	31.26	33.14
12	14.85	15.81	16.99	18.55	21.03	23.34	24.05	26.22	28.30	30.32	32.91	34.82
13	15.98	16.98	18.20	19.81	22.36	24.74	25.47	27.69	29.82	31.88	34.53	36.48
14	17.12	18.15	19.41	21.06	23.68	26.12	26.87	29.14	31.32	33.43	36.12	38.11
15	18.25	19.31	20.60	22.31	25.00	27.49	28.26	30.58	32.80	34.95	37.70	39.72
16	19.37	20.47	21.79	23.54	26.30	28.85	29.63	32.00	34.27	36.46	39.25	41.31
17	20.49	21.61	22.98	24.77	27.59	30.19	31.00	33.41	35.72	37.95	40.79	42.88
18	21.60	22.76	24.16	25.99	28.87	31.53	32.35	34.81	37.16	39.42	42.31	44.43
19	22.72	23.90	25.33	27.20	30.14	32.85	33.69	36.19	38.58	40.88	43.82	45.97
20	23.83	25.04	26.50	28.41	31.41	34.17	35.02	37.57	40.00	42.34	45.31	47.50
21	24.93	26.17	27.66	29.62	32.67	35.48	36.34	38.93	41.40	43.78	46.80	49.01
22	26.04	27.30	28.82	30.81	33.92	36.78	37.66	40.29	42.80	45.20	48.27	50.51
23	27.14	28.43	29.98	32.01	35.17	38.08	38.97	41.64	44.18	46.62	49.73	52.00
24	28.24	29.55	31.13	33.20	36.42	39.36	40.27	42.98	45.56	48.03	51.18	53.48
25	29.34	30.68	32.28	34.38	37.65	40.65	41.57	44.31	46.93	49.44	52.62	54.95
26	30.43	31.79	33.43	35.56	38.89	41.92	42.86	45.64	48.29	50.83	54.05	56.41
27	31.53	32.91	34.57	36.74	40.11	43.19	44.14	46.96	49.64	52.22	55.48	57.86
28	32.62	34.03	35.71	37.92	41.34	44.46	45.42	48.28	50.99	53.59	56.89	59.30
29	33.71	35.14	36.85	39.09	42.56	45.72	46.69	49.59	52.34	54.97	58.30	60.73
30	34.80	36.25	37.99	40.26	43.77	46.98	47.96	50.89	53.67	56.33	59.70	62.16
40	45.62	47.27	49.24	51.81	55.76	59.34	60.44	63.69	66.77	69.70	73.40	76.09
50	56.33	58.16	60.35	63.17	67.50	71.42	72.61	76.15	79.49	82.66	86.66	89.56
60	66.98	68.97	71.34	74.40	79.08	83.30	84.58	88.38	91.95	95.34	99.61	102.69
80	88.13	90.41	93.11	96.58	101.88	106.63	108.07	112.33	116.32	120.10	124.84	128.26
100	109.14	111.67	114.66	118.50	124.34	129.56	131.14	135.81	140.17	144.29	149.45	153.17

Values for the Wilcoxon signed-rank Test

Reject the hypothesis of identical populations if the test statistic is *less than* the value T shown in the following table.

Sample size n	Level of significance for a two-tailed test			
	10%	5%	2%	1%
5	1	—	—	—
6	3	1	—	—
7	4	3	1	—
8	6	4	2	1
9	9	6	4	2
10	11	9	6	4
11	14	11	8	6
12	18	14	10	8
13	22	18	13	10
14	26	22	16	13
15	31	26	20	16
16	36	30	24	20
17	42	35	28	24
18	48	41	33	28
19	54	47	38	33
20	61	53	44	38
21	68	59	50	43
22	76	66	56	49
23	84	74	63	55
24	92	82	70	62
25	101	90	77	69

Values for the Mann-Whitney-Wilcoxon Test

Reject the hypothesis of identical populations if the test statistic is *less than* the value T_L shown in the following table or *greater than* the value T_U where

$$T_U = n_1(n_1 + n_2 + 1) - T_L$$

$\alpha = .01$	n_2									
	2	3	4	5	6	7	8	9	10	
n_1	2	—	—	—	—	—	—	—	—	—
	3	—	—	—	—	—	—	—	7	7
	4	—	—	—	—	11	11	12	12	13
	5	—	—	—	16	17	17	18	19	20
	6	—	—	22	23	24	25	26	27	28
	7	—	—	29	30	32	33	35	36	38
	8	—	—	38	39	41	43	44	46	48
	9	—	46	47	49	51	53	55	57	59
	10	—	56	58	60	62	65	67	69	72

$\alpha = .05$	n_2									
	2	3	4	5	6	7	8	9	10	
n_1	2	—	—	—	—	—	—	4	4	4
	3	—	—	—	7	8	8	9	9	10
	4	—	—	11	12	13	14	15	15	16
	5	—	16	17	18	19	21	22	23	24
	6	—	23	24	25	27	28	30	32	33
	7	—	30	32	34	35	37	39	41	43
	8	37	39	41	43	45	47	50	52	54
	9	46	48	50	53	56	58	61	63	66
	10	56	59	61	64	67	70	73	76	79

$\alpha = .10$	n_2									
	2	3	4	5	6	7	8	9	10	
n_1	2	—	—	—	4	4	4	5	5	5
	3	—	7	7	8	9	9	10	11	11
	4	—	11	12	13	14	15	16	17	18
	5	16	17	18	20	21	22	24	25	27
	6	22	24	25	27	29	30	32	34	36
	7	29	31	33	35	37	40	42	44	46
	8	38	40	42	45	47	50	52	55	57
	9	47	50	52	55	58	61	64	67	70
	10	57	60	63	67	70	73	76	80	83

F distribution critical values

		Degrees of freedom in the numerator								
	p									
		1	2	3	4	5	6	7	8	9
Denominator degrees of freedom	0.1	8.53	9.00	9.16	9.24	9.29	9.33	9.35	9.37	9.38
	0.05	18.51	19.00	19.16	19.25	19.30	19.33	19.35	19.37	19.38
	0.025	38.51	39.00	39.17	39.25	39.30	39.33	39.36	39.37	39.39
	0.01	98.50	99.00	99.17	99.25	99.30	99.33	99.36	99.37	99.39
	0.001	998.50	999.00	999.17	999.25	999.30	999.33	999.36	999.37	999.39
	0.1	5.54	5.46	5.39	5.34	5.31	5.28	5.27	5.25	5.24
	0.05	10.13	9.55	9.28	9.12	9.01	8.94	8.89	8.85	8.81
	0.025	17.44	16.04	15.44	15.10	14.88	14.73	14.62	14.54	14.47
	0.01	34.12	30.82	29.46	28.71	28.24	27.91	27.67	27.49	27.35
	0.001	167.03	148.50	141.11	137.10	134.58	132.85	131.58	130.62	129.86
	0.1	4.54	4.32	4.19	4.11	4.05	4.01	3.98	3.95	3.94
	0.05	7.71	6.94	6.59	6.39	6.26	6.16	6.09	6.04	6.00
	0.025	12.22	10.65	9.98	9.60	9.36	9.20	9.07	8.98	8.90
	0.01	21.20	18.00	16.69	15.98	15.52	15.21	14.98	14.80	14.66
	0.001	74.14	61.25	56.18	53.44	51.71	50.53	49.66	49.00	48.47
	0.1	4.06	3.78	3.62	3.52	3.45	3.40	3.37	3.34	3.32
	0.05	6.61	5.79	5.41	5.19	5.05	4.95	4.88	4.82	4.77
	0.025	10.01	8.43	7.76	7.39	7.15	6.98	6.85	6.76	6.68
	0.01	16.26	13.27	12.06	11.39	10.97	10.67	10.46	10.29	10.16
	0.001	47.18	37.12	33.20	31.09	29.75	28.83	28.16	27.65	27.24
	0.1	3.78	3.46	3.29	3.18	3.11	3.05	3.01	2.98	2.96
Denominator degrees of freedom	0.05	5.99	5.14	4.76	4.53	4.39	4.28	4.21	4.15	4.10
	0.025	8.81	7.26	6.60	6.23	5.99	5.82	5.70	5.60	5.52
	0.01	13.75	10.92	9.78	9.15	8.75	8.47	8.26	8.10	7.98
	0.001	35.51	27.00	23.70	21.92	20.80	20.03	19.46	19.03	18.69
	0.1	3.59	3.26	3.07	2.96	2.88	2.83	2.78	2.75	2.72
	0.05	5.59	4.74	4.35	4.12	3.97	3.87	3.79	3.73	3.68
	0.025	8.07	6.54	5.89	5.52	5.29	5.12	4.99	4.90	4.82
	0.01	12.25	9.55	8.45	7.85	7.46	7.19	6.99	6.84	6.72
	0.001	29.25	21.69	18.77	17.20	16.21	15.52	15.02	14.63	14.33
	0.1	3.46	3.11	2.92	2.81	2.73	2.67	2.62	2.59	2.56
	0.05	5.32	4.46	4.07	3.84	3.69	3.58	3.50	3.44	3.39
	0.025	7.57	6.06	5.42	5.05	4.82	4.65	4.53	4.43	4.36
	0.01	11.26	8.65	7.59	7.01	6.63	6.37	6.18	6.03	5.91
	0.001	25.41	18.49	15.83	14.39	13.48	12.86	12.40	12.05	11.77
	0.1	3.36	3.01	2.81	2.69	2.61	2.55	2.51	2.47	2.44
	0.05	5.12	4.26	3.86	3.63	3.48	3.37	3.29	3.23	3.18
	0.025	7.21	5.71	5.08	4.72	4.48	4.32	4.20	4.10	4.03
	0.01	10.56	8.02	6.99	6.42	6.06	5.80	5.61	5.47	5.35
	0.001	22.86	16.39	13.90	12.56	11.71	11.13	10.70	10.37	10.11
	0.1	3.29	2.92	2.73	2.61	2.52	2.46	2.41	2.38	2.35
	0.05	4.96	4.10	3.71	3.48	3.33	3.22	3.14	3.07	3.02
	0.025	6.94	5.46	4.83	4.47	4.24	4.07	3.95	3.85	3.78
	0.01	10.04	7.56	6.55	5.99	5.64	5.39	5.20	5.06	4.94
	0.001	21.04	14.91	12.55	11.28	10.48	9.93	9.52	9.20	8.96
Denominator degrees of freedom	0.1	3.23	2.86	2.66	2.54	2.45	2.39	2.34	2.30	2.27
	0.05	4.84	3.98	3.59	3.36	3.20	3.09	3.01	2.95	2.90
	0.025	6.72	5.26	4.63	4.28	4.04	3.88	3.76	3.66	3.59
	0.01	9.65	7.21	6.22	5.67	5.32	5.07	4.89	4.74	4.63
	0.001	19.69	13.81	11.56	10.35	9.58	9.05	8.66	8.35	8.12
	0.1	3.18	2.81	2.61	2.48	2.39	2.33	2.28	2.24	2.21
	0.05	4.75	3.89	3.49	3.26	3.11	3.00	2.91	2.85	2.80
	0.025	6.55	5.10	4.47	4.12	3.89	3.73	3.61	3.51	3.44
	0.01	9.33	6.93	5.95	5.41	5.06	4.82	4.64	4.50	4.39
	0.001	18.64	12.97	10.80	9.63	8.89	8.38	8.00	7.71	7.48
	0.1	3.14	2.76	2.56	2.43	2.35	2.28	2.23	2.20	2.16
	0.05	4.67	3.81	3.41	3.18	3.03	2.92	2.83	2.77	2.71
	0.025	6.41	4.97	4.35	4.00	3.77	3.60	3.48	3.39	3.31
	0.01	9.07	6.70	5.74	5.21	4.86	4.62	4.44	4.30	4.19
	0.001	17.82	12.31	10.21	9.07	8.35	7.86	7.49	7.21	6.98

F distribution critical values

		Degrees of freedom in the numerator								
		1	2	3	4	5	6	7	8	9
Denominator degrees of freedom	<i>p</i>									
	0.1	3.10	2.73	2.52	2.39	2.31	2.24	2.19	2.15	2.12
	0.05	4.60	3.74	3.34	3.11	2.96	2.85	2.76	2.70	2.65
	0.025	6.30	4.86	4.24	3.89	3.66	3.50	3.38	3.29	3.21
	0.01	8.86	6.51	5.56	5.04	4.69	4.46	4.28	4.14	4.03
	0.001	17.14	11.78	9.73	8.62	7.92	7.44	7.08	6.80	6.58
	0.1	3.07	2.70	2.49	2.36	2.27	2.21	2.16	2.12	2.09
	0.05	4.54	3.68	3.29	3.06	2.90	2.79	2.71	2.64	2.59
	0.025	6.20	4.77	4.15	3.80	3.58	3.41	3.29	3.20	3.12
	0.01	8.68	6.36	5.42	4.89	4.56	4.32	4.14	4.00	3.89
	0.001	16.59	11.34	9.34	8.25	7.57	7.09	6.74	6.47	6.26
	0.1	3.05	2.67	2.46	2.33	2.24	2.18	2.13	2.09	2.06
	0.05	4.49	3.63	3.24	3.01	2.85	2.74	2.66	2.59	2.54
	0.025	6.12	4.69	4.08	3.73	3.50	3.34	3.22	3.12	3.05
	0.01	8.53	6.23	5.29	4.77	4.44	4.20	4.03	3.89	3.78
	0.001	16.12	10.97	9.01	7.94	7.27	6.80	6.46	6.19	5.98
	0.1	3.03	2.64	2.44	2.31	2.22	2.15	2.10	2.06	2.03
	0.05	4.45	3.59	3.20	2.96	2.81	2.70	2.61	2.55	2.49
	0.025	6.04	4.62	4.01	3.66	3.44	3.28	3.16	3.06	2.98
	0.01	8.40	6.11	5.18	4.67	4.34	4.10	3.93	3.79	3.68
	0.001	15.72	10.66	8.73	7.68	7.02	6.56	6.22	5.96	5.75
	0.1	3.01	2.62	2.42	2.29	2.20	2.13	2.08	2.04	2.00
	0.05	4.41	3.55	3.16	2.93	2.77	2.66	2.58	2.51	2.46
	0.025	5.98	4.56	3.95	3.61	3.38	3.22	3.10	3.01	2.93
	0.01	8.29	6.01	5.09	4.58	4.25	4.01	3.84	3.71	3.60
	0.001	15.38	10.39	8.49	7.46	6.81	6.35	6.02	5.76	5.56
	0.1	2.99	2.61	2.40	2.27	2.18	2.11	2.06	2.02	1.98
	0.05	4.38	3.52	3.13	2.90	2.74	2.63	2.54	2.48	2.42
	0.025	5.92	4.51	3.90	3.56	3.33	3.17	3.05	2.96	2.88
	0.01	8.18	5.93	5.01	4.50	4.17	3.94	3.77	3.63	3.52
	0.001	15.08	10.16	8.28	7.27	6.62	6.18	5.85	5.59	5.39
Denominator degrees of freedom	0.1	2.97	2.59	2.38	2.25	2.16	2.09	2.04	2.00	1.96
	0.05	4.35	3.49	3.10	2.87	2.71	2.60	2.51	2.45	2.39
	0.025	5.87	4.46	3.86	3.51	3.29	3.13	3.01	2.91	2.84
	0.01	8.10	5.85	4.94	4.43	4.10	3.87	3.70	3.56	3.46
	0.001	14.82	9.95	8.10	7.10	6.46	6.02	5.69	5.44	5.24
	0.1	2.96	2.57	2.36	2.23	2.14	2.08	2.02	1.98	1.95
	0.05	4.32	3.47	3.07	2.84	2.68	2.57	2.49	2.42	2.37
	0.025	5.83	4.42	3.82	3.48	3.25	3.09	2.97	2.87	2.80
	0.01	8.02	5.78	4.87	4.37	4.04	3.81	3.64	3.51	3.40
	0.001	14.59	9.77	7.94	6.95	6.32	5.88	5.56	5.31	5.11
	0.1	2.95	2.56	2.35	2.22	2.13	2.06	2.01	1.97	1.93
	0.05	4.30	3.44	3.05	2.82	2.66	2.55	2.46	2.40	2.34
	0.025	5.79	4.38	3.78	3.44	3.22	3.05	2.93	2.84	2.76
	0.01	7.95	5.72	4.82	4.31	3.99	3.76	3.59	3.45	3.35
	0.001	14.38	9.61	7.80	6.81	6.19	5.76	5.44	5.19	4.99
	0.1	2.94	2.55	2.34	2.21	2.11	2.05	1.99	1.95	1.92
	0.05	4.28	3.42	3.03	2.80	2.64	2.53	2.44	2.37	2.32
	0.025	5.75	4.35	3.75	3.41	3.18	3.02	2.90	2.81	2.73
	0.01	7.88	5.66	4.76	4.26	3.94	3.71	3.54	3.41	3.30
	0.001	14.20	9.47	7.67	6.70	6.08	5.65	5.33	5.09	4.89
	0.1	2.93	2.54	2.33	2.19	2.10	2.04	1.98	1.94	1.91
	0.05	4.26	3.40	3.01	2.78	2.62	2.51	2.42	2.36	2.30
	0.025	5.72	4.32	3.72	3.38	3.15	2.99	2.87	2.78	2.70
	0.01	7.82	5.61	4.72	4.22	3.90	3.67	3.50	3.36	3.26
	0.001	14.03	9.34	7.55	6.59	5.98	5.55	5.23	4.99	4.80
	0.1	2.92	2.53	2.32	2.18	2.09	2.02	1.97	1.93	1.89
	0.05	4.24	3.39	2.99	2.76	2.60	2.49	2.40	2.34	2.28
	0.025	5.69	4.29	3.69	3.35	3.13	2.97	2.85	2.75	2.68
	0.01	7.77	5.57	4.68	4.18	3.85	3.63	3.46	3.32	3.22
	0.001	13.88	9.22	7.45	6.49	5.89	5.46	5.15	4.91	4.71

F distribution critical values

		Degrees of freedom in the numerator								
		1	2	3	4	5	6	7	8	9
Denominator degrees of freedom	<i>p</i>									
	0.1	2.91	2.52	2.31	2.17	2.08	2.01	1.96	1.92	1.88
	0.05	4.23	3.37	2.98	2.74	2.59	2.47	2.39	2.32	2.27
	0.025	5.66	4.27	3.67	3.33	3.10	2.94	2.82	2.73	2.65
	0.01	7.72	5.53	4.64	4.14	3.82	3.59	3.42	3.29	3.18
	0.001	13.74	9.12	7.36	6.41	5.80	5.38	5.07	4.83	4.64
	0.1	2.90	2.51	2.30	2.17	2.07	2.00	1.95	1.91	1.87
	0.05	4.21	3.35	2.96	2.73	2.57	2.46	2.37	2.31	2.25
	0.025	5.63	4.24	3.65	3.31	3.08	2.92	2.80	2.71	2.63
	0.01	7.68	5.49	4.60	4.11	3.78	3.56	3.39	3.26	3.15
	0.001	13.61	9.02	7.27	6.33	5.73	5.31	5.00	4.76	4.57
	0.1	2.89	2.50	2.29	2.16	2.06	2.00	1.94	1.90	1.87
	0.05	4.20	3.34	2.95	2.71	2.56	2.45	2.36	2.29	2.24
	0.025	5.61	4.22	3.63	3.29	3.06	2.90	2.78	2.69	2.61
	0.01	7.64	5.45	4.57	4.07	3.75	3.53	3.36	3.23	3.12
	0.001	13.50	8.93	7.19	6.25	5.66	5.24	4.93	4.69	4.50
	0.1	2.89	2.50	2.28	2.15	2.06	1.99	1.93	1.89	1.86
	0.05	4.18	3.33	2.93	2.70	2.55	2.43	2.35	2.28	2.22
	0.025	5.59	4.20	3.61	3.27	3.04	2.88	2.76	2.67	2.59
	0.01	7.60	5.42	4.54	4.04	3.73	3.50	3.33	3.20	3.09
	0.001	13.39	8.85	7.12	6.19	5.59	5.18	4.87	4.64	4.45
30	0.1	2.88	2.49	2.28	2.14	2.05	1.98	1.93	1.88	1.85
	0.05	4.17	3.32	2.92	2.69	2.53	2.42	2.33	2.27	2.21
	0.025	5.57	4.18	3.59	3.25	3.03	2.87	2.75	2.65	2.57
	0.01	7.56	5.39	4.51	4.02	3.70	3.47	3.30	3.17	3.07
	0.001	13.29	8.77	7.05	6.12	5.53	5.12	4.82	4.58	4.39
40	0.1	2.84	2.44	2.23	2.09	2.00	1.93	1.87	1.83	1.79
	0.05	4.08	3.23	2.84	2.61	2.45	2.34	2.25	2.18	2.12
	0.025	5.42	4.05	3.46	3.13	2.90	2.74	2.62	2.53	2.45
	0.01	7.31	5.18	4.31	3.83	3.51	3.29	3.12	2.99	2.89
	0.001	12.61	8.25	6.59	5.70	5.13	4.73	4.44	4.21	4.02
50	0.1	2.81	2.41	2.20	2.06	1.97	1.90	1.84	1.80	1.76
	0.05	4.03	3.18	2.79	2.56	2.40	2.29	2.20	2.13	2.07
	0.025	5.34	3.97	3.39	3.05	2.83	2.67	2.55	2.46	2.38
	0.01	7.17	5.06	4.20	3.72	3.41	3.19	3.02	2.89	2.78
	0.001	12.22	7.96	6.34	5.46	4.90	4.51	4.22	4.00	3.82
60	0.1	2.79	2.39	2.18	2.04	1.95	1.87	1.82	1.77	1.74
	0.05	4.00	3.15	2.76	2.53	2.37	2.25	2.17	2.10	2.04
	0.025	5.29	3.93	3.34	3.01	2.79	2.63	2.51	2.41	2.33
	0.01	7.08	4.98	4.13	3.65	3.34	3.12	2.95	2.82	2.72
	0.001	11.97	7.77	6.17	5.31	4.76	4.37	4.09	3.86	3.69
100	0.1	2.76	2.36	2.14	2.00	1.91	1.83	1.78	1.73	1.69
	0.05	3.94	3.09	2.70	2.46	2.31	2.19	2.10	2.03	1.97
	0.025	5.18	3.83	3.25	2.92	2.70	2.54	2.42	2.32	2.24
	0.01	6.90	4.82	3.98	3.51	3.21	2.99	2.82	2.69	2.59
	0.001	11.50	7.41	5.86	5.02	4.48	4.11	3.83	3.61	3.44
200	0.1	2.73	2.33	2.11	1.97	1.88	1.80	1.75	1.70	1.66
	0.05	3.89	3.04	2.65	2.42	2.26	2.14	2.06	1.98	1.93
	0.025	5.10	3.76	3.18	2.85	2.63	2.47	2.35	2.26	2.18
	0.01	6.76	4.71	3.88	3.41	3.11	2.89	2.73	2.60	2.50
	0.001	11.15	7.15	5.63	4.81	4.29	3.92	3.65	3.43	3.26
1000	0.1	2.71	2.31	2.09	1.95	1.85	1.78	1.72	1.68	1.64
	0.05	3.85	3.00	2.61	2.38	2.22	2.11	2.02	1.95	1.89
	0.025	5.04	3.70	3.13	2.80	2.58	2.42	2.30	2.20	2.13
	0.01	6.66	4.63	3.80	3.34	3.04	2.82	2.66	2.53	2.43
	0.001	10.89	6.96	5.46	4.65	4.14	3.78	3.51	3.30	3.13

F distribution critical values

		Degrees of freedom in the numerator									
	p	10	11	12	13	14	15	16	17	18	19
2	0.1	9.39	9.40	9.41	9.41	9.42	9.42	9.43	9.43	9.44	9.44
	0.05	19.40	19.40	19.41	19.42	19.42	19.43	19.43	19.44	19.44	19.44
	0.025	39.40	39.41	39.41	39.42	39.43	39.43	39.44	39.44	39.44	39.45
	0.01	99.40	99.41	99.42	99.42	99.43	99.43	99.44	99.44	99.44	99.45
	0.001	999.40	999.41	999.42	999.42	999.43	999.43	999.44	999.44	999.44	999.45
3	0.1	5.23	5.22	5.22	5.21	5.20	5.20	5.20	5.19	5.19	5.19
	0.05	8.79	8.76	8.74	8.73	8.71	8.70	8.69	8.68	8.67	8.67
	0.025	14.42	14.37	14.34	14.30	14.28	14.25	14.23	14.21	14.20	14.18
	0.01	27.23	27.13	27.05	26.98	26.92	26.87	26.83	26.79	26.75	26.72
	0.001	129.25	128.74	128.32	127.96	127.64	127.37	127.14	126.93	126.74	126.57
4	0.1	3.92	3.91	3.90	3.89	3.88	3.87	3.86	3.86	3.85	3.85
	0.05	5.96	5.94	5.91	5.89	5.87	5.86	5.84	5.83	5.82	5.81
	0.025	8.84	8.79	8.75	8.71	8.68	8.66	8.63	8.61	8.59	8.58
	0.01	14.55	14.45	14.37	14.31	14.25	14.20	14.15	14.11	14.08	14.05
	0.001	48.05	47.70	47.41	47.16	46.95	46.76	46.60	46.45	46.32	46.21
5	0.1	3.30	3.28	3.27	3.26	3.25	3.24	3.23	3.22	3.22	3.21
	0.05	4.74	4.70	4.68	4.66	4.64	4.62	4.60	4.59	4.58	4.57
	0.025	6.62	6.57	6.52	6.49	6.46	6.43	6.40	6.38	6.36	6.34
	0.01	10.05	9.96	9.89	9.82	9.77	9.72	9.68	9.64	9.61	9.58
	0.001	26.92	26.65	26.42	26.22	26.06	25.91	25.78	25.67	25.57	25.48
6	0.1	2.94	2.92	2.90	2.89	2.88	2.87	2.86	2.85	2.85	2.84
	0.05	4.06	4.03	4.00	3.98	3.96	3.94	3.92	3.91	3.90	3.88
	0.025	5.46	5.41	5.37	5.33	5.30	5.27	5.24	5.22	5.20	5.18
	0.01	7.87	7.79	7.72	7.66	7.60	7.56	7.52	7.48	7.45	7.42
	0.001	18.41	18.18	17.99	17.82	17.68	17.56	17.45	17.35	17.27	17.19
7	0.1	2.70	2.68	2.67	2.65	2.64	2.63	2.62	2.61	2.61	2.60
	0.05	3.64	3.60	3.57	3.55	3.53	3.51	3.49	3.48	3.47	3.46
	0.025	4.76	4.71	4.67	4.63	4.60	4.57	4.54	4.52	4.50	4.48
	0.01	6.62	6.54	6.47	6.41	6.36	6.31	6.28	6.24	6.21	6.18
	0.001	14.08	13.88	13.71	13.56	13.43	13.32	13.23	13.14	13.06	12.99
8	0.1	2.54	2.52	2.50	2.49	2.48	2.46	2.45	2.45	2.44	2.43
	0.05	3.35	3.31	3.28	3.26	3.24	3.22	3.20	3.19	3.17	3.16
	0.025	4.30	4.24	4.20	4.16	4.13	4.10	4.08	4.05	4.03	4.02
	0.01	5.81	5.73	5.67	5.61	5.56	5.52	5.48	5.44	5.41	5.38
	0.001	11.54	11.35	11.19	11.06	10.94	10.84	10.75	10.67	10.60	10.54
9	0.1	2.42	2.40	2.38	2.36	2.35	2.34	2.33	2.32	2.31	2.30
	0.05	3.14	3.10	3.07	3.05	3.03	3.01	2.99	2.97	2.96	2.95
	0.025	3.96	3.91	3.87	3.83	3.80	3.77	3.74	3.72	3.70	3.68
	0.01	5.26	5.18	5.11	5.05	5.01	4.96	4.92	4.89	4.86	4.83
	0.001	9.89	9.72	9.57	9.44	9.33	9.24	9.15	9.08	9.01	8.95
10	0.1	2.32	2.30	2.28	2.27	2.26	2.24	2.23	2.22	2.22	2.21
	0.05	2.98	2.94	2.91	2.89	2.86	2.85	2.83	2.81	2.80	2.79
	0.025	3.72	3.66	3.62	3.58	3.55	3.52	3.50	3.47	3.45	3.44
	0.01	4.85	4.77	4.71	4.65	4.60	4.56	4.52	4.49	4.46	4.43
	0.001	8.75	8.59	8.45	8.32	8.22	8.13	8.05	7.98	7.91	7.86
11	0.1	2.25	2.23	2.21	2.19	2.18	2.17	2.16	2.15	2.14	2.13
	0.05	2.85	2.82	2.79	2.76	2.74	2.72	2.70	2.69	2.67	2.66
	0.025	3.53	3.47	3.43	3.39	3.36	3.33	3.30	3.28	3.26	3.24
	0.01	4.54	4.46	4.40	4.34	4.29	4.25	4.21	4.18	4.15	4.12
	0.001	7.92	7.76	7.63	7.51	7.41	7.32	7.24	7.17	7.11	7.06
12	0.1	2.19	2.17	2.15	2.13	2.12	2.10	2.09	2.08	2.08	2.07
	0.05	2.75	2.72	2.69	2.66	2.64	2.62	2.60	2.58	2.57	2.56
	0.025	3.37	3.32	3.28	3.24	3.21	3.18	3.15	3.13	3.11	3.09
	0.01	4.30	4.22	4.16	4.10	4.05	4.01	3.97	3.94	3.91	3.88
	0.001	7.29	7.14	7.00	6.89	6.79	6.71	6.63	6.57	6.51	6.45
13	0.1	2.14	2.12	2.10	2.08	2.07	2.05	2.04	2.03	2.02	2.01
	0.05	2.67	2.63	2.60	2.58	2.55	2.53	2.51	2.50	2.48	2.47
	0.025	3.25	3.20	3.15	3.12	3.08	3.05	3.03	3.00	2.98	2.96
	0.01	4.10	4.02	3.96	3.91	3.86	3.82	3.78	3.75	3.72	3.69
	0.001	6.80	6.65	6.52	6.41	6.31	6.23	6.16	6.09	6.03	5.98

F distribution critical values

		Degrees of freedom in the numerator										
p		10	11	12	13	14	15	16	17	18	19	
Denominator degrees of freedom	14	0.1	2.10	2.07	2.05	2.04	2.02	2.01	2.00	1.99	1.98	1.97
	0.05	2.60	2.57	2.53	2.51	2.48	2.46	2.44	2.43	2.41	2.40	
	0.025	3.15	3.09	3.05	3.01	2.98	2.95	2.92	2.90	2.88	2.86	
	0.01	3.94	3.86	3.80	3.75	3.70	3.66	3.62	3.59	3.56	3.53	
	0.001	6.40	6.26	6.13	6.02	5.93	5.85	5.78	5.71	5.66	5.60	
	15	0.1	2.06	2.04	2.02	2.00	1.99	1.97	1.96	1.95	1.94	1.93
	0.05	2.54	2.51	2.48	2.45	2.42	2.40	2.38	2.37	2.35	2.34	
	0.025	3.06	3.01	2.96	2.92	2.89	2.86	2.84	2.81	2.79	2.77	
	0.01	3.80	3.73	3.67	3.61	3.56	3.52	3.49	3.45	3.42	3.40	
	0.001	6.08	5.94	5.81	5.71	5.62	5.54	5.46	5.40	5.35	5.29	
	16	0.1	2.03	2.01	1.99	1.97	1.95	1.94	1.93	1.92	1.91	1.90
	0.05	2.49	2.46	2.42	2.40	2.37	2.35	2.33	2.32	2.30	2.29	
	0.025	2.99	2.93	2.89	2.85	2.82	2.79	2.76	2.74	2.72	2.70	
	0.01	3.69	3.62	3.55	3.50	3.45	3.41	3.37	3.34	3.31	3.28	
	0.001	5.81	5.67	5.55	5.44	5.35	5.27	5.20	5.14	5.09	5.04	
	17	0.1	2.00	1.98	1.96	1.94	1.93	1.91	1.90	1.89	1.88	1.87
	0.05	2.45	2.41	2.38	2.35	2.33	2.31	2.29	2.27	2.26	2.24	
	0.025	2.92	2.87	2.82	2.79	2.75	2.72	2.70	2.67	2.65	2.63	
	0.01	3.59	3.52	3.46	3.40	3.35	3.31	3.27	3.24	3.21	3.19	
	0.001	5.58	5.44	5.32	5.22	5.13	5.05	4.99	4.92	4.87	4.82	
18	0.1	1.98	1.95	1.93	1.92	1.90	1.89	1.87	1.86	1.85	1.84	
0.05	2.41	2.37	2.34	2.31	2.29	2.27	2.25	2.23	2.22	2.20		
0.025	2.87	2.81	2.77	2.73	2.70	2.67	2.64	2.62	2.60	2.58		
0.01	3.51	3.43	3.37	3.32	3.27	3.23	3.19	3.16	3.13	3.10		
0.001	5.39	5.25	5.13	5.03	4.94	4.87	4.80	4.74	4.68	4.63		
19	0.1	1.96	1.93	1.91	1.89	1.88	1.86	1.85	1.84	1.83	1.82	
0.05	2.38	2.34	2.31	2.28	2.26	2.23	2.21	2.20	2.18	2.17		
0.025	2.82	2.76	2.72	2.68	2.65	2.62	2.59	2.57	2.55	2.53		
0.01	3.43	3.36	3.30	3.24	3.19	3.15	3.12	3.08	3.05	3.03		
0.001	5.22	5.08	4.97	4.87	4.78	4.70	4.64	4.58	4.52	4.47		
20	0.1	1.94	1.91	1.89	1.87	1.86	1.84	1.83	1.82	1.81	1.80	
0.05	2.35	2.31	2.28	2.25	2.22	2.20	2.18	2.17	2.15	2.14		
0.025	2.77	2.72	2.68	2.64	2.60	2.57	2.55	2.52	2.50	2.48		
0.01	3.37	3.29	3.23	3.18	3.13	3.09	3.05	3.02	2.99	2.96		
0.001	5.08	4.94	4.82	4.72	4.64	4.56	4.49	4.44	4.38	4.33		
21	0.1	1.92	1.90	1.87	1.86	1.84	1.83	1.81	1.80	1.79	1.78	
0.05	2.32	2.28	2.25	2.22	2.20	2.18	2.16	2.14	2.12	2.11		
0.025	2.73	2.68	2.64	2.60	2.56	2.53	2.51	2.48	2.46	2.44		
0.01	3.31	3.24	3.17	3.12	3.07	3.03	2.99	2.96	2.93	2.90		
0.001	4.95	4.81	4.70	4.60	4.51	4.44	4.37	4.31	4.26	4.21		
22	0.1	1.90	1.88	1.86	1.84	1.83	1.81	1.80	1.79	1.78	1.77	
0.05	2.30	2.26	2.23	2.20	2.17	2.15	2.13	2.11	2.10	2.08		
0.025	2.70	2.65	2.60	2.56	2.53	2.50	2.47	2.45	2.43	2.41		
0.01	3.26	3.18	3.12	3.07	3.02	2.98	2.94	2.91	2.88	2.85		
0.001	4.83	4.70	4.58	4.49	4.40	4.33	4.26	4.20	4.15	4.10		
23	0.1	1.89	1.87	1.84	1.83	1.81	1.80	1.78	1.77	1.76	1.75	
0.05	2.27	2.24	2.20	2.18	2.15	2.13	2.11	2.09	2.08	2.06		
0.025	2.67	2.62	2.57	2.53	2.50	2.47	2.44	2.42	2.39	2.37		
0.01	3.21	3.14	3.07	3.02	2.97	2.93	2.89	2.86	2.83	2.80		
0.001	4.73	4.60	4.48	4.39	4.30	4.23	4.16	4.10	4.05	4.00		
24	0.1	1.88	1.85	1.83	1.81	1.80	1.78	1.77	1.76	1.75	1.74	
0.05	2.25	2.22	2.18	2.15	2.13	2.11	2.09	2.07	2.05	2.04		
0.025	2.64	2.59	2.54	2.50	2.47	2.44	2.41	2.39	2.36	2.35		
0.01	3.17	3.09	3.03	2.98	2.93	2.89	2.85	2.82	2.79	2.76		
0.001	4.64	4.51	4.39	4.30	4.21	4.14	4.07	4.02	3.96	3.92		
25	0.1	1.87	1.84	1.82	1.80	1.79	1.77	1.76	1.75	1.74	1.73	
0.05	2.24	2.20	2.16	2.14	2.11	2.09	2.07	2.05	2.04	2.02		
0.025	2.61	2.56	2.51	2.48	2.44	2.41	2.38	2.36	2.34	2.32		
0.01	3.13	3.06	2.99	2.94	2.89	2.85	2.81	2.78	2.75	2.72		
0.001	4.56	4.42	4.31	4.22	4.13	4.06	3.99	3.94	3.88	3.84		

F distribution critical values

		Degrees of freedom in the numerator									
		10	11	12	13	14	15	16	17	18	19
Denominator degrees of freedom	p										
	0.1	1.86	1.83	1.81	1.79	1.77	1.76	1.75	1.73	1.72	1.71
	0.05	2.22	2.18	2.15	2.12	2.09	2.07	2.05	2.03	2.02	2.00
	0.025	2.59	2.54	2.49	2.45	2.42	2.39	2.36	2.34	2.31	2.29
	0.01	3.09	3.02	2.96	2.90	2.86	2.81	2.78	2.75	2.72	2.69
	0.001	4.48	4.35	4.24	4.14	4.06	3.99	3.92	3.86	3.81	3.77
	0.1	1.85	1.82	1.80	1.78	1.76	1.75	1.74	1.72	1.71	1.70
	0.05	2.20	2.17	2.13	2.10	2.08	2.06	2.04	2.02	2.00	1.99
	0.025	2.57	2.51	2.47	2.43	2.39	2.36	2.34	2.31	2.29	2.27
	0.01	3.06	2.99	2.93	2.87	2.82	2.78	2.75	2.71	2.68	2.66
	0.001	4.41	4.28	4.17	4.08	3.99	3.92	3.86	3.80	3.75	3.70
	0.1	1.84	1.81	1.79	1.77	1.75	1.74	1.73	1.71	1.70	1.69
	0.05	2.19	2.15	2.12	2.09	2.06	2.04	2.02	2.00	1.99	1.97
	0.025	2.55	2.49	2.45	2.41	2.37	2.34	2.32	2.29	2.27	2.25
	0.01	3.03	2.96	2.90	2.84	2.79	2.75	2.72	2.68	2.65	2.63
	0.001	4.35	4.22	4.11	4.01	3.93	3.86	3.80	3.74	3.69	3.64
	0.1	1.83	1.80	1.78	1.76	1.75	1.73	1.72	1.71	1.69	1.68
	0.05	2.18	2.14	2.10	2.08	2.05	2.03	2.01	1.99	1.97	1.96
	0.025	2.53	2.48	2.43	2.39	2.36	2.32	2.30	2.27	2.25	2.23
	0.01	3.00	2.93	2.87	2.81	2.77	2.73	2.69	2.66	2.63	2.60
	0.001	4.29	4.16	4.05	3.96	3.88	3.80	3.74	3.68	3.63	3.59
Denominator degrees of freedom	0.1	1.82	1.79	1.77	1.75	1.74	1.72	1.71	1.70	1.69	1.68
	0.05	2.16	2.13	2.09	2.06	2.04	2.01	1.99	1.98	1.96	1.95
	0.025	2.51	2.46	2.41	2.37	2.34	2.31	2.28	2.26	2.23	2.21
	0.01	2.98	2.91	2.84	2.79	2.74	2.70	2.66	2.63	2.60	2.57
	0.001	4.24	4.11	4.00	3.91	3.82	3.75	3.69	3.63	3.58	3.53
	0.1	1.76	1.74	1.71	1.70	1.68	1.66	1.65	1.64	1.62	1.61
	0.05	2.08	2.04	2.00	1.97	1.95	1.92	1.90	1.89	1.87	1.85
	0.025	2.39	2.33	2.29	2.25	2.21	2.18	2.15	2.13	2.11	2.09
	0.01	2.80	2.73	2.66	2.61	2.56	2.52	2.48	2.45	2.42	2.39
	0.001	3.87	3.75	3.64	3.55	3.47	3.40	3.34	3.28	3.23	3.19
	0.1	1.73	1.70	1.68	1.66	1.64	1.63	1.61	1.60	1.59	1.58
	0.05	2.03	1.99	1.95	1.92	1.89	1.87	1.85	1.83	1.81	1.80
	0.025	2.32	2.26	2.22	2.18	2.14	2.11	2.08	2.06	2.03	2.01
	0.01	2.70	2.63	2.56	2.51	2.46	2.42	2.38	2.35	2.32	2.29
	0.001	3.67	3.55	3.44	3.35	3.27	3.20	3.14	3.09	3.04	2.99
	0.1	1.71	1.68	1.66	1.64	1.62	1.60	1.59	1.58	1.56	1.55
	0.05	1.99	1.95	1.92	1.89	1.86	1.84	1.82	1.80	1.78	1.76
	0.025	2.27	2.22	2.17	2.13	2.09	2.06	2.03	2.01	1.98	1.96
	0.01	2.63	2.56	2.50	2.44	2.39	2.35	2.31	2.28	2.25	2.22
	0.001	3.54	3.42	3.32	3.23	3.15	3.08	3.02	2.96	2.91	2.87
Denominator degrees of freedom	0.1	1.66	1.64	1.61	1.59	1.57	1.56	1.54	1.53	1.52	1.50
	0.05	1.93	1.89	1.85	1.82	1.79	1.77	1.75	1.73	1.71	1.69
	0.025	2.18	2.12	2.08	2.04	2.00	1.97	1.94	1.91	1.89	1.87
	0.01	2.50	2.43	2.37	2.31	2.27	2.22	2.19	2.15	2.12	2.09
	0.001	3.30	3.18	3.07	2.99	2.91	2.84	2.78	2.73	2.68	2.63
	0.1	1.63	1.60	1.58	1.56	1.54	1.52	1.51	1.49	1.48	1.47
	0.05	1.88	1.84	1.80	1.77	1.74	1.72	1.69	1.67	1.66	1.64
	0.025	2.11	2.06	2.01	1.97	1.93	1.90	1.87	1.84	1.82	1.80
	0.01	2.41	2.34	2.27	2.22	2.17	2.13	2.09	2.06	2.03	2.00
	0.001	3.12	3.00	2.90	2.82	2.74	2.67	2.61	2.56	2.51	2.46
	0.1	1.61	1.58	1.55	1.53	1.51	1.49	1.48	1.46	1.45	1.44
	0.05	1.84	1.80	1.76	1.73	1.70	1.68	1.65	1.63	1.61	1.60
	0.025	2.06	2.01	1.96	1.92	1.88	1.85	1.82	1.79	1.77	1.74
	0.01	2.34	2.27	2.20	2.15	2.10	2.06	2.02	1.98	1.95	1.92
	0.001	2.99	2.87	2.77	2.69	2.61	2.54	2.48	2.43	2.38	2.34