F Distribution Table — α = 0.01

Critical values of the F distribution at the 1% significance level (α = 0.01). Higher critical values require stronger evidence to reject H■.

How to Use This Table — α = 0.01

Use α = 0.01 when you need stricter significance (1% false-positive risk).

Critical values here are always higher than the corresponding α = 0.05 values.

Formula reminders: One-Way ANOVA: df1 = k–1, df2 = N–k

Regression: df1 = p (predictors), df2 = n–p–1

F Critical Values — α = 0.01 | df2: 1 to 30

df2 \ df1	1	2	3	4	5	6	7	8	9	10
1	4052.181	4999.500	5403.352	5624.583	5763.650	5858.986	5928.356	5981.070	6022.473	6055.847
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	0.000	0.000	0.000
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

df2 \ df1	1	2	3	4	5	6	7	8	9	10
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

F Critical Values — α = 0.01 | df2: 35 to 1000 (∞)

df2 \ df1	1	2	3	4	5	6	7	8	9	10
35	7.419	5.268	4.396	3.908	3.592	3.368	3.200	3.069	2.963	2.876
40	7.314	5.179	4.313	3.828	3.514	3.291	3.124	2.993	2.888	2.801
45	7.234	5.110	4.249	3.767	3.454	3.232	3.066	2.935	2.830	2.743
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

df2 \ df1	1	2	3	4	5	6	7	8	9	10
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
120	6.851	4.787	3.949	3.480	3.174	2.956	2.792	2.663	2.559	2.472
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
1000 (∞)	6.660	4.626	3.801	3.338	3.036	2.820	2.657	2.529	2.425	2.339

All values are right-tail critical values at $\alpha = 0.01$. Compare with $\alpha = 0.05$ table: values here are always larger. Source: statisticsfundamentals.com