

Chi-Square and F-table – For F, Numerator df on top, denominator df on side Upper Tail Probabilities

df	X2(.05)	F(.05,1)	F(.05,2)	F(.05,3)	F(.05,4)	F(.05,5)	F(.05,6)	F(.05,7)	F(.05,8)	F(.05,9)	F(.05,10)	F(.05,11)	F(.05,12)
1	3.841	161.448	199.500	215.707	224.583	230.162	233.986	236.768	238.883	240.543	241.882	242.983	243.906
2	5.991	18.513	19.000	19.164	19.247	19.296	19.330	19.353	19.371	19.385	19.396	19.405	19.413
3	7.815	10.128	9.552	9.277	9.117	9.013	8.941	8.887	8.845	8.812	8.786	8.763	8.745
4	9.488	7.709	6.944	6.591	6.388	6.256	6.163	6.094	6.041	5.999	5.964	5.936	5.912
5	11.070	6.608	5.786	5.409	5.192	5.050	4.950	4.876	4.818	4.772	4.735	4.704	4.678
6	12.592	5.987	5.143	4.757	4.534	4.387	4.284	4.207	4.147	4.099	4.060	4.027	4.000
7	14.067	5.591	4.737	4.347	4.120	3.972	3.866	3.787	3.726	3.677	3.637	3.603	3.575
8	15.507	5.318	4.459	4.066	3.838	3.687	3.581	3.500	3.438	3.388	3.347	3.313	3.284
9	16.919	5.117	4.256	3.863	3.633	3.482	3.374	3.293	3.230	3.179	3.137	3.102	3.073
10	18.307	4.965	4.103	3.708	3.478	3.326	3.217	3.135	3.072	3.020	2.978	2.943	2.913
11	19.675	4.844	3.982	3.587	3.357	3.204	3.095	3.012	2.948	2.896	2.854	2.818	2.788
12	21.026	4.747	3.885	3.490	3.259	3.106	2.996	2.913	2.849	2.796	2.753	2.717	2.687
13	22.362	4.667	3.806	3.411	3.179	3.025	2.915	2.832	2.767	2.714	2.671	2.635	2.604
14	23.685	4.600	3.739	3.344	3.112	2.958	2.848	2.764	2.699	2.646	2.602	2.565	2.534
15	24.996	4.543	3.682	3.287	3.056	2.901	2.790	2.707	2.641	2.588	2.544	2.507	2.475
16	26.296	4.494	3.634	3.239	3.007	2.852	2.741	2.657	2.591	2.538	2.494	2.456	2.425
17	27.587	4.451	3.592	3.197	2.965	2.810	2.699	2.614	2.548	2.494	2.450	2.413	2.381
18	28.869	4.414	3.555	3.160	2.928	2.773	2.661	2.577	2.510	2.456	2.412	2.374	2.342
19	30.144	4.381	3.522	3.127	2.895	2.740	2.628	2.544	2.477	2.423	2.378	2.340	2.308
20	31.410	4.351	3.493	3.098	2.866	2.711	2.599	2.514	2.447	2.393	2.348	2.310	2.278
21	32.671	4.325	3.467	3.072	2.840	2.685	2.573	2.488	2.420	2.366	2.321	2.283	2.250
22	33.924	4.301	3.443	3.049	2.817	2.661	2.549	2.464	2.397	2.342	2.297	2.259	2.226
23	35.172	4.279	3.422	3.028	2.796	2.640	2.528	2.442	2.375	2.320	2.275	2.236	2.204
24	36.415	4.260	3.403	3.009	2.776	2.621	2.508	2.423	2.355	2.300	2.255	2.216	2.183
25	37.652	4.242	3.385	2.991	2.759	2.603	2.490	2.405	2.337	2.282	2.236	2.198	2.165
26	38.885	4.225	3.369	2.975	2.743	2.587	2.474	2.388	2.321	2.265	2.220	2.181	2.148
27	40.113	4.210	3.354	2.960	2.728	2.572	2.459	2.373	2.305	2.250	2.204	2.166	2.132
28	41.337	4.196	3.340	2.947	2.714	2.558	2.445	2.359	2.291	2.236	2.190	2.151	2.118
29	42.557	4.183	3.328	2.934	2.701	2.545	2.432	2.346	2.278	2.223	2.177	2.138	2.104
30	43.773	4.171	3.316	2.922	2.690	2.534	2.421	2.334	2.266	2.211	2.165	2.126	2.092
40	55.758	4.085	3.232	2.839	2.606	2.449	2.336	2.249	2.180	2.124	2.077	2.038	2.003
50	67.505	4.034	3.183	2.790	2.557	2.400	2.286	2.199	2.130	2.073	2.026	1.986	1.952
60	79.082	4.001	3.150	2.758	2.525	2.368	2.254	2.167	2.097	2.040	1.993	1.952	1.917
70	90.531	3.978	3.128	2.736	2.503	2.346	2.231	2.143	2.074	2.017	1.969	1.928	1.893
80	101.879	3.960	3.111	2.719	2.486	2.329	2.214	2.126	2.056	1.999	1.951	1.910	1.875
90	113.145	3.947	3.098	2.706	2.473	2.316	2.201	2.113	2.043	1.986	1.938	1.897	1.861
100	124.342	3.936	3.087	2.696	2.463	2.305	2.191	2.103	2.032	1.975	1.927	1.886	1.850
110	135.480	3.927	3.079	2.687	2.454	2.297	2.182	2.094	2.024	1.966	1.918	1.877	1.841
120	146.567	3.920	3.072	2.680	2.447	2.290	2.175	2.087	2.016	1.959	1.910	1.869	1.834
130	157.610	3.914	3.066	2.674	2.441	2.284	2.169	2.081	2.010	1.953	1.904	1.863	1.827
140	168.613	3.909	3.061	2.669	2.436	2.279	2.164	2.076	2.005	1.947	1.899	1.858	1.822
150	179.581	3.904	3.056	2.665	2.432	2.274	2.160	2.071	2.001	1.943	1.894	1.853	1.817
160	190.516	3.900	3.053	2.661	2.428	2.271	2.156	2.067	1.997	1.939	1.890	1.849	1.813
170	201.423	3.897	3.049	2.658	2.425	2.267	2.152	2.064	1.993	1.935	1.887	1.845	1.810
180	212.304	3.894	3.046	2.655	2.422	2.264	2.149	2.061	1.990	1.932	1.884	1.842	1.806
190	223.160	3.891	3.043	2.652	2.419	2.262	2.147	2.058	1.987	1.929	1.881	1.839	1.803
200	233.994	3.888	3.041	2.650	2.417	2.259	2.144	2.056	1.985	1.927	1.878	1.837	1.801
∞	#N/A	3.841	2.996	2.605	2.372	2.214	2.099	2.010	1.938	1.880	1.831	1.789	1.752