The critical value F^* is the value such that the area under the density curve of an F distribution with $df1$ degrees of freedom in the numerator and $df2$ degrees of freedom in the denominator to the right of F^* is equal to .05.

F distribution critical values

		df1 = degrees of freedom in the numerator										
		1	2	3	4	5	10	20	30	40	50	100
	1	161.45	199.50	215.71	224.58	230.16	241.88	248.01	250.10	251.14	251.77	253.04
	2	18.51	19.00	19.16	19.25	19.30	19.40	19.45	19.46	19.47	19.48	19.49
	3	10.13	9.55	9.28	9.12	9.01	8.79	8.66	8.62	8.59	8.58	8.55
	4	7.71	6.94	6.59	6.39	6.26	5.96	5.80	5.75	5.72	5.70	5.66
	5	6.61	5.79	5.41	5.19	5.05	4.74	4.56	4.50	4.46	4.44	4.41
	6	5.99	5.14	4.76	4.53	4.39	4.06	3.87	3.81	3.77	3.75	3.71
	7	5.59	4.74	4.35	4.12	3.97	3.64	3.44	3.38	3.34	3.32	3.27
	8	5.32	4.46	4.07	3.84	3.69	3.35	3.15	3.08	3.04	3.02	2.97
	9	5.12	4.26	3.86	3.63	3.48	3.14	2.94	2.86	2.83	2.80	2.76
	10	4.96	4.10	3.71	3.48	3.33	2.98	2.77	2.70	2.66	2.64	2.59
	11	4.84	3.98	3.59	3.36	3.20	2.85	2.65	2.57	2.53	2.51	2.46
	12	4.75	3.89	3.49	3.26	3.11	2.75	2.54	2.47	2.43	2.40	2.35
	13	4.67	3.81	3.41	3.18	3.03	2.67	2.46	2.38	2.34	2.31	2.26
	14	4.60	3.74	3.34	3.11	2.96	2.60	2.39	2.31	2.27	2.24	2.19
df2 =	15	4.54	3.68	3.29	3.06	2.90	2.54	2.33	2.25	2.20	2.18	2.12
degrees	16	4.49	3.63	3.24	3.01	2.85	2.49	2.28	2.19	2.15	2.12	2.07
of	17	4.45	3.59	3.20	2.96	2.81	2.45	2.23	2.15	2.10	2.08	2.02
freedom	18	4.41	3.55	3.16	2.93	2.77	2.41	2.19	2.11	2.06	2.04	1.98
in the	19	4.38	3.52	3.13	2.90	2.74	2.38	2.16	2.07	2.03	2.00	1.94
denominator	20	4.35	3.49	3.10	2.87	2.71	2.35	2.12	2.04	1.99	1.97	1.91
	21	4.32	3.47	3.07	2.84	2.68	2.32	2.10	2.01	1.96	1.94	1.88
	22	4.30	3.44	3.05	2.82	2.66	2.30	2.07	1.98	1.94	1.91	1.85
	23	4.28	3.42	3.03	2.80	2.64	2.27	2.05	1.96	1.91	1.88	1.82
	24	4.26	3.40	3.01	2.78	2.62	2.25	2.03	1.94	1.89	1.86	1.80
	25	4.24	3.39	2.99	2.76	2.60	2.24	2.01	1.92	1.87	1.84	1.78
	26	4.23	3.37	2.98	2.74	2.59	2.22	1.99	1.90	1.85	1.82	1.76
	27	4.21	3.35	2.96	2.73	2.57	2.20	1.97	1.88	1.84	1.81	1.74
	28	4.20	3.34	2.95	2.71	2.56	2.19	1.96	1.87	1.82	1.79	1.73
	29	4.18	3.33	2.93	2.70	2.55	2.18	1.94	1.85	1.81	1.77	1.71
	30	4.17	3.32	2.92	2.69	2.53	2.16	1.93	1.84	1.79	1.76	1.70
	40	4.08	3.23	2.84	2.61	2.45	2.08	1.84	1.74	1.69	1.66	1.59
	50	4.03	3.18	2.79	2.56	2.40	2.03	1.78	1.69	1.63	1.60	1.52
	100	3.94	3.09	2.70	2.46	2.31	1.93	1.68	1.57	1.52	1.48	1.39
	1000	3.85	3.00	2.61	2.38	2.22	1.84	1.58	1.47	1.41	1.36	1.26