Tablas de probabilidad y cuantiles críticos para inferencia estadística

Rabadán Pérez, F. - Ibar Alonso, R. - Muñoz Céspedes, E. (URJC)

01/04/2026

Tablas de probabilidad

Este documento reúne tablas numéricas de distribuciones habituales en inferencia estadística, generadas automáticamente con R.

Normal estándar $N(0,1)$: tabla clásica de $\Phi(z)$

Para $Z \sim N(0,1)$, $\Phi(z) = P(Z \leq z)$. La tabla da $\Phi(z)$ para $z \geq 0$, tomando $z =$ fila + columna (fila: 0.0, 0.1,…; columna: 0.00–0.09).

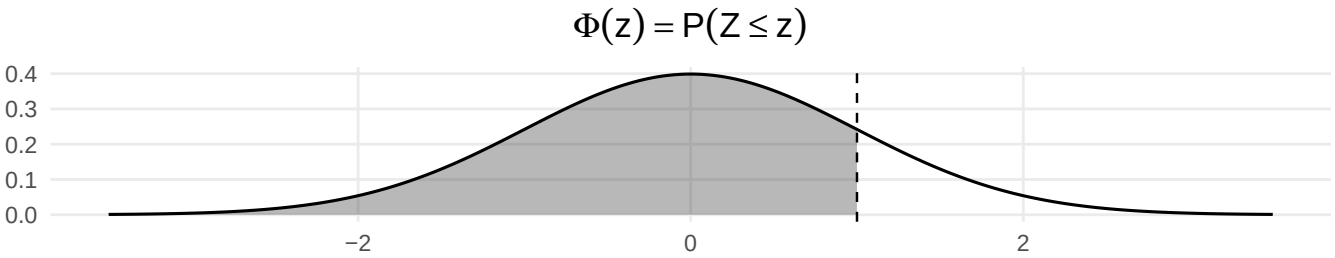


Tabla 1: Tabla Z clásica: $\Phi(z) = P(Z \leq z)$ para $Z \sim N(0,1)$ y $z \geq 0$.

z	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
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
3.5	0.9998	0.9998	0.9998	0.9998	0.9998	0.9998	0.9998	0.9998	0.9998	0.9998
3.6	0.9998	0.9998	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
3.7	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
3.8	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
3.9	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Normal estándar $N(0,1)$: tabla de cola derecha $P(Z > z)$ (valores $z \geq 0$)

Para $Z \sim N(0,1)$, esta tabla presenta $P(Z > z)$ para $z \geq 0$. Se lee con $z =$ fila + columna (fila: 0.0, 0.1,…; columna: 0.00–0.09).

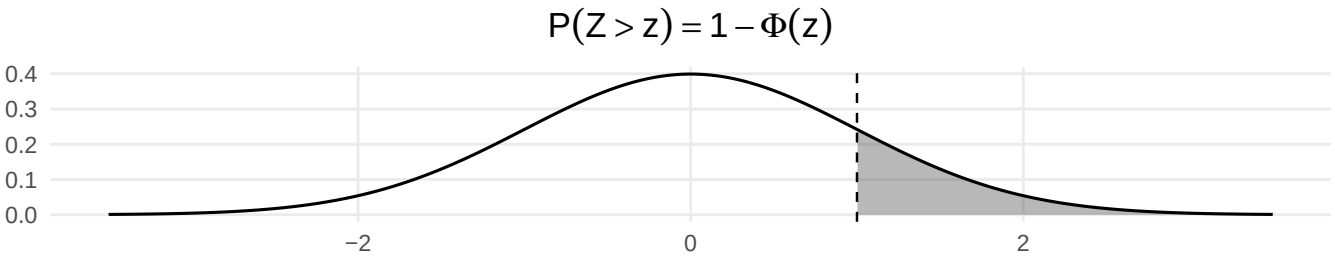


Tabla 2: Tabla Z (cola derecha): $P(Z > z) = 1 - \Phi(z)$ para $Z \sim N(0,1)$ y $z \geq 0$.

z	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.0	0.5000	0.4960	0.4920	0.4880	0.4840	0.4801	0.4761	0.4721	0.4681	0.4641
0.1	0.4602	0.4562	0.4522	0.4483	0.4443	0.4404	0.4364	0.4325	0.4286	0.4247
0.2	0.4207	0.4168	0.4129	0.4090	0.4052	0.4013	0.3974	0.3936	0.3897	0.3859
0.3	0.3821	0.3783	0.3745	0.3707	0.3669	0.3632	0.3594	0.3557	0.3520	0.3483
0.4	0.3446	0.3409	0.3372	0.3336	0.3300	0.3264	0.3228	0.3192	0.3156	0.3121
0.5	0.3085	0.3050	0.3015	0.2981	0.2946	0.2912	0.2877	0.2843	0.2810	0.2776
0.6	0.2743	0.2709	0.2676	0.2643	0.2611	0.2578	0.2546	0.2514	0.2483	0.2451
0.7	0.2420	0.2389	0.2358	0.2327	0.2296	0.2266	0.2236	0.2206	0.2177	0.2148
0.8	0.2119	0.2090	0.2061	0.2033	0.2005	0.1977	0.1949	0.1922	0.1894	0.1867
0.9	0.1841	0.1814	0.1788	0.1762	0.1736	0.1711	0.1685	0.1660	0.1635	0.1611
1.0	0.1587	0.1562	0.1539	0.1515	0.1492	0.1469	0.1446	0.1423	0.1401	0.1379
1.1	0.1357	0.1335	0.1314	0.1292	0.1271	0.1251	0.1230	0.1210	0.1190	0.1170
1.2	0.1151	0.1131	0.1112	0.1093	0.1075	0.1056	0.1038	0.1020	0.1003	0.0985
1.3	0.0968	0.0951	0.0934	0.0918	0.0901	0.0885	0.0869	0.0853	0.0838	0.0823
1.4	0.0808	0.0793	0.0778	0.0764	0.0749	0.0735	0.0721	0.0708	0.0694	0.0681
1.5	0.0668	0.0655	0.0643	0.0630	0.0618	0.0606	0.0594	0.0582	0.0571	0.0559
1.6	0.0548	0.0537	0.0526	0.0516	0.0505	0.0495	0.0485	0.0475	0.0465	0.0455
1.7	0.0446	0.0436	0.0427	0.0418	0.0409	0.0401	0.0392	0.0384	0.0375	0.0367
1.8	0.0359	0.0351	0.0344	0.0336	0.0329	0.0322	0.0314	0.0307	0.0301	0.0294
1.9	0.0287	0.0281	0.0274	0.0268	0.0262	0.0256	0.0250	0.0244	0.0239	0.0233
2.0	0.0228	0.0222	0.0217	0.0212	0.0207	0.0202	0.0197	0.0192	0.0188	0.0183
2.1	0.0179	0.0174	0.0170	0.0166	0.0162	0.0158	0.0154	0.0150	0.0146	0.0143
2.2	0.0139	0.0136	0.0132	0.0129	0.0125	0.0122	0.0119	0.0116	0.0113	0.0110
2.3	0.0107	0.0104	0.0102	0.0099	0.0096	0.0094	0.0091	0.0089	0.0087	0.0084
2.4	0.0082	0.0080	0.0078	0.0075	0.0073	0.0071	0.0069	0.0068	0.0066	0.0064
2.5	0.0062	0.0060	0.0059	0.0057	0.0055	0.0054	0.0052	0.0051	0.0049	0.0048
2.6	0.0047	0.0045	0.0044	0.0043	0.0041	0.0040	0.0039	0.0038	0.0037	0.0036
2.7	0.0035	0.0034	0.0033	0.0032	0.0031	0.0030	0.0029	0.0028	0.0027	0.0026
2.8	0.0026	0.0025	0.0024	0.0023	0.0023	0.0022	0.0021	0.0021	0.0020	0.0019
2.9	0.0019	0.0018	0.0018	0.0017	0.0016	0.0016	0.0015	0.0015	0.0014	0.0014
3.0	0.0013	0.0013	0.0013	0.0012	0.0012	0.0011	0.0011	0.0011	0.0010	0.0010
3.1	0.0010	0.0009	0.0009	0.0009	0.0008	0.0008	0.0008	0.0008	0.0007	0.0007
3.2	0.0007	0.0007	0.0006	0.0006	0.0006	0.0006	0.0006	0.0005	0.0005	0.0005
3.3	0.0005	0.0005	0.0005	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0003
3.4	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0002
3.5	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
3.6	0.0002	0.0002	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
3.7	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
3.8	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
3.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Normal estándar $N(0,1)$: cuantiles críticos $z_{1-\alpha}$ (cola derecha)

La siguiente tabla recoge cuantiles críticos de $Z \sim N(0,1)$ en cola derecha: $z_{1-\alpha}$ cumple $P(Z > z_{1-\alpha}) = \alpha$.

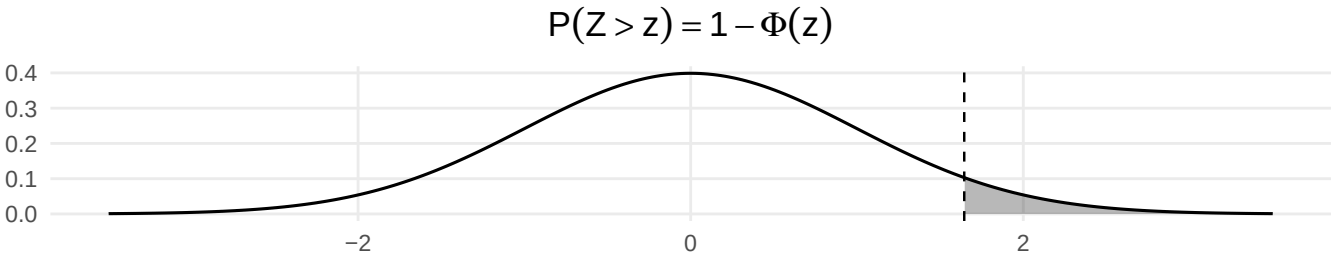


Tabla 3: Cuantiles críticos Z (cola derecha): $z_{1-\alpha}$ con $P(Z > z_{1-\alpha}) = \alpha$.

α	$z_{1-\alpha}$
0.100	1.2816
0.050	1.6449
0.025	1.9600
0.010	2.3263
0.005	2.5758
0.001	3.0902

Normal estándar $N(0,1)$: cuantiles críticos bilaterales $z_{1-\alpha/2}$

La siguiente tabla recoge cuantiles críticos bilaterales de $Z \sim N(0,1)$: $z_{1-\alpha/2}$ cumple $P(|Z| > z_{1-\alpha/2}) = \alpha$.

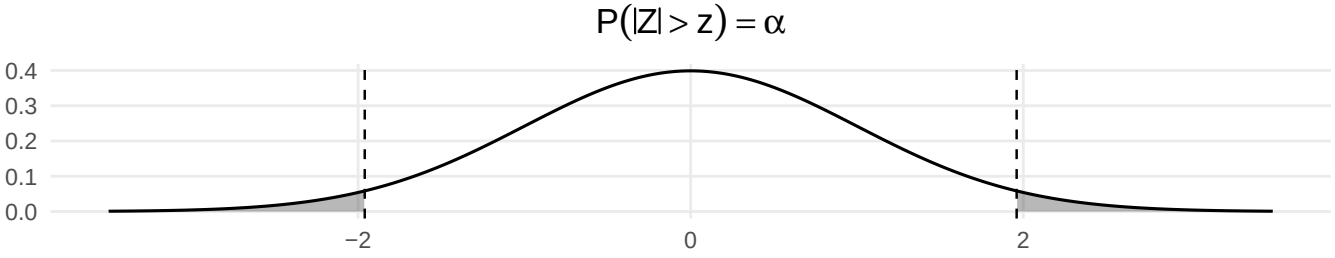


Tabla 4: Cuantiles críticos Z (bilateral): $z_{1-\alpha/2}$ con $P(|Z| > z_{1-\alpha/2}) = \alpha$.

α	$z_{1-\alpha/2}$
0.100	1.6449
0.050	1.9600
0.025	2.2414
0.010	2.5758
0.005	2.8070
0.001	3.2905

t de Student: cuantiles críticos $t_{1-\alpha,\nu}$ (cola derecha)

La siguiente tabla recoge cuantiles críticos en cola derecha de $T \sim t(\nu)$: $t_{1-\alpha,\nu}$ cumple $P(T > t_{1-\alpha,\nu}) = \alpha$.

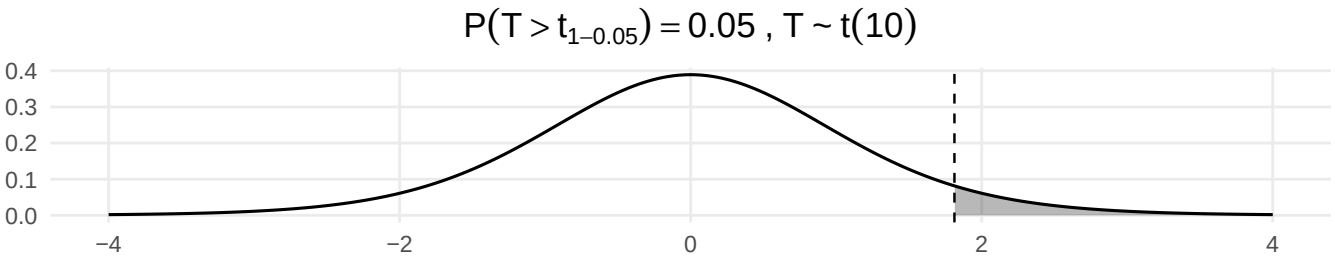


Tabla 5: Cuantiles críticos t (cola derecha): $P(T > t_{1-\alpha,\nu}) = \alpha$, $T \sim t(\nu)$.

ν	$\alpha = 0.100$	$\alpha = 0.050$	$\alpha = 0.025$	$\alpha = 0.010$	$\alpha = 0.005$	$\alpha = 0.001$
1	3.08	6.31	12.71	31.82	63.66	318.31
2	1.89	2.92	4.30	6.96	9.92	22.33
3	1.64	2.35	3.18	4.54	5.84	10.21
4	1.53	2.13	2.78	3.75	4.60	7.17
5	1.48	2.02	2.57	3.36	4.03	5.89
6	1.44	1.94	2.45	3.14	3.71	5.21
7	1.41	1.89	2.36	3.00	3.50	4.79
8	1.40	1.86	2.31	2.90	3.36	4.50
9	1.38	1.83	2.26	2.82	3.25	4.30
10	1.37	1.81	2.23	2.76	3.17	4.14
11	1.36	1.80	2.20	2.72	3.11	4.02
12	1.36	1.78	2.18	2.68	3.05	3.93
13	1.35	1.77	2.16	2.65	3.01	3.85
14	1.35	1.76	2.14	2.62	2.98	3.79
15	1.34	1.75	2.13	2.60	2.95	3.73
16	1.34	1.75	2.12	2.58	2.92	3.69
17	1.33	1.74	2.11	2.57	2.90	3.65
18	1.33	1.73	2.10	2.55	2.88	3.61
19	1.33	1.73	2.09	2.54	2.86	3.58
20	1.33	1.72	2.09	2.53	2.85	3.55
21	1.32	1.72	2.08	2.52	2.83	3.53
22	1.32	1.72	2.07	2.51	2.82	3.50
23	1.32	1.71	2.07	2.50	2.81	3.48
24	1.32	1.71	2.06	2.49	2.80	3.47
25	1.32	1.71	2.06	2.49	2.79	3.45
26	1.31	1.71	2.06	2.48	2.78	3.43
27	1.31	1.70	2.05	2.47	2.77	3.42
28	1.31	1.70	2.05	2.47	2.76	3.41
29	1.31	1.70	2.05	2.46	2.76	3.40
30	1.31	1.70	2.04	2.46	2.75	3.39
31	1.31	1.70	2.04	2.45	2.74	3.37
32	1.31	1.69	2.04	2.45	2.74	3.37
33	1.31	1.69	2.03	2.44	2.73	3.36
34	1.31	1.69	2.03	2.44	2.73	3.35
35	1.31	1.69	2.03	2.44	2.72	3.34
36	1.31	1.69	2.03	2.43	2.72	3.33
37	1.30	1.69	2.03	2.43	2.72	3.33
38	1.30	1.69	2.02	2.43	2.71	3.32
39	1.30	1.68	2.02	2.43	2.71	3.31
40	1.30	1.68	2.02	2.42	2.70	3.31
60	1.30	1.67	2.00	2.39	2.66	3.23
120	1.29	1.66	1.98	2.36	2.62	3.16
200	1.29	1.65	1.97	2.35	2.60	3.13
500	1.28	1.65	1.96	2.33	2.59	3.11

t de Student: cuantiles críticos bilaterales $t_{1-\alpha/2,\nu}$

La siguiente tabla recoge cuantiles críticos bilaterales de $T \sim t(\nu)$: $t_{1-\alpha/2,\nu}$ cumple $P(|T| > t_{1-\alpha/2,\nu}) = \alpha$.

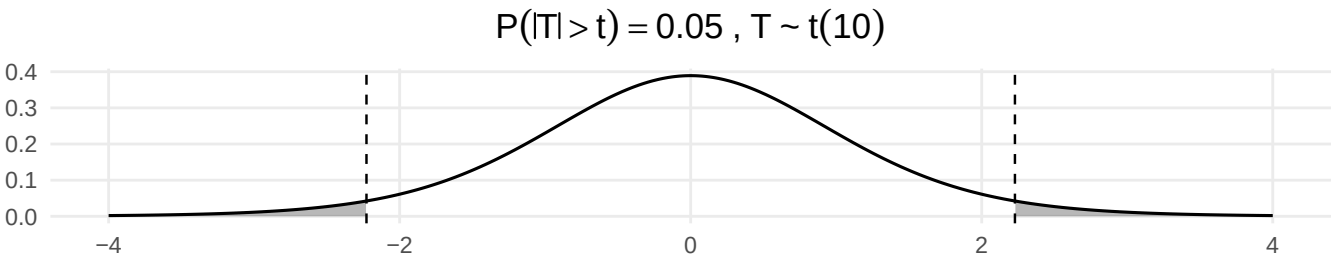


Tabla 6: Cuantiles críticos t (bilateral): $t_{1-\alpha/2,\nu}$ con $P(|T| > t_{1-\alpha/2,\nu}) = \alpha$, $T \sim t(\nu)$.

ν	$\alpha = 0.100$	$\alpha = 0.050$	$\alpha = 0.025$	$\alpha = 0.010$	$\alpha = 0.005$	$\alpha = 0.001$
1	6.31	12.71	25.45	63.66	127.32	636.62
2	2.92	4.30	6.21	9.92	14.09	31.60
3	2.35	3.18	4.18	5.84	7.45	12.92
4	2.13	2.78	3.50	4.60	5.60	8.61
5	2.02	2.57	3.16	4.03	4.77	6.87
6	1.94	2.45	2.97	3.71	4.32	5.96
7	1.89	2.36	2.84	3.50	4.03	5.41
8	1.86	2.31	2.75	3.36	3.83	5.04
9	1.83	2.26	2.69	3.25	3.69	4.78
10	1.81	2.23	2.63	3.17	3.58	4.59
11	1.80	2.20	2.59	3.11	3.50	4.44
12	1.78	2.18	2.56	3.05	3.43	4.32
13	1.77	2.16	2.53	3.01	3.37	4.22
14	1.76	2.14	2.51	2.98	3.33	4.14
15	1.75	2.13	2.49	2.95	3.29	4.07
16	1.75	2.12	2.47	2.92	3.25	4.01
17	1.74	2.11	2.46	2.90	3.22	3.97
18	1.73	2.10	2.45	2.88	3.20	3.92
19	1.73	2.09	2.43	2.86	3.17	3.88
20	1.72	2.09	2.42	2.85	3.15	3.85
21	1.72	2.08	2.41	2.83	3.14	3.82
22	1.72	2.07	2.41	2.82	3.12	3.79
23	1.71	2.07	2.40	2.81	3.10	3.77
24	1.71	2.06	2.39	2.80	3.09	3.75
25	1.71	2.06	2.38	2.79	3.08	3.73
26	1.71	2.06	2.38	2.78	3.07	3.71
27	1.70	2.05	2.37	2.77	3.06	3.69
28	1.70	2.05	2.37	2.76	3.05	3.67
29	1.70	2.05	2.36	2.76	3.04	3.66
30	1.70	2.04	2.36	2.75	3.03	3.65
31	1.70	2.04	2.36	2.74	3.02	3.63
32	1.69	2.04	2.35	2.74	3.01	3.62
33	1.69	2.03	2.35	2.73	3.01	3.61
34	1.69	2.03	2.35	2.73	3.00	3.60
35	1.69	2.03	2.34	2.72	3.00	3.59
36	1.69	2.03	2.34	2.72	2.99	3.58
37	1.69	2.03	2.34	2.72	2.99	3.57
38	1.69	2.02	2.33	2.71	2.98	3.57
39	1.68	2.02	2.33	2.71	2.98	3.56
40	1.68	2.02	2.33	2.70	2.97	3.55
60	1.67	2.00	2.30	2.66	2.91	3.46
120	1.66	1.98	2.27	2.62	2.86	3.37
200	1.65	1.97	2.26	2.60	2.84	3.34
500	1.65	1.96	2.25	2.59	2.82	3.31

χ^2: cuantiles críticos $\chi^2_{1-\alpha,\nu}$ (cola derecha)

La siguiente tabla recoge cuantiles críticos en cola derecha de $X \sim \chi^2(\nu)$: $\chi^2_{1-\alpha,\nu}$ cumple $P(X > \chi^2_{1-\alpha,\nu}) = \alpha$.

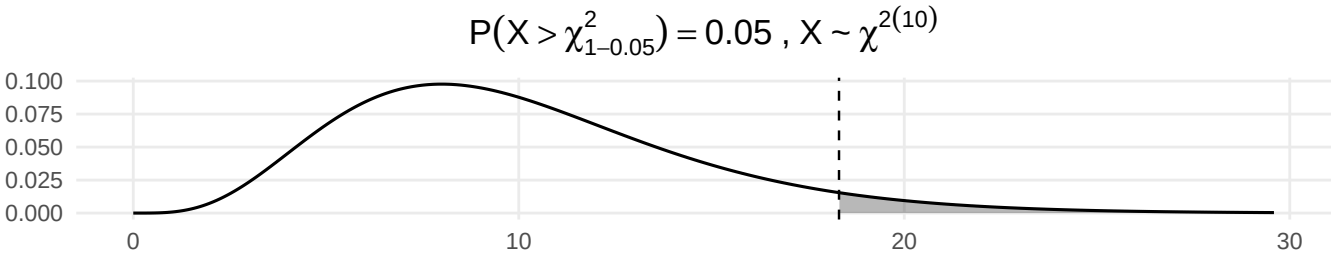


Tabla 7: Cuantiles críticos χ^2 (cola derecha): $P(X > \chi^2_{1-\alpha,\nu}) = \alpha$, $X \sim \chi^2(\nu)$.

ν	$\alpha = 0.100$	$\alpha = 0.050$	$\alpha = 0.025$	$\alpha = 0.010$	$\alpha = 0.005$	$\alpha = 0.001$
1	2.71	3.84	5.02	6.63	7.88	10.83
2	4.61	5.99	7.38	9.21	10.60	13.82
3	6.25	7.81	9.35	11.34	12.84	16.27
4	7.78	9.49	11.14	13.28	14.86	18.47
5	9.24	11.07	12.83	15.09	16.75	20.52
6	10.64	12.59	14.45	16.81	18.55	22.46
7	12.02	14.07	16.01	18.48	20.28	24.32
8	13.36	15.51	17.53	20.09	21.95	26.12
9	14.68	16.92	19.02	21.67	23.59	27.88
10	15.99	18.31	20.48	23.21	25.19	29.59
11	17.28	19.68	21.92	24.72	26.76	31.26
12	18.55	21.03	23.34	26.22	28.30	32.91
13	19.81	22.36	24.74	27.69	29.82	34.53
14	21.06	23.68	26.12	29.14	31.32	36.12
15	22.31	25.00	27.49	30.58	32.80	37.70
16	23.54	26.30	28.85	32.00	34.27	39.25
17	24.77	27.59	30.19	33.41	35.72	40.79
18	25.99	28.87	31.53	34.81	37.16	42.31
19	27.20	30.14	32.85	36.19	38.58	43.82
20	28.41	31.41	34.17	37.57	40.00	45.31
21	29.62	32.67	35.48	38.93	41.40	46.80
22	30.81	33.92	36.78	40.29	42.80	48.27
23	32.01	35.17	38.08	41.64	44.18	49.73
24	33.20	36.42	39.36	42.98	45.56	51.18
25	34.38	37.65	40.65	44.31	46.93	52.62
26	35.56	38.89	41.92	45.64	48.29	54.05
27	36.74	40.11	43.19	46.96	49.64	55.48
28	37.92	41.34	44.46	48.28	50.99	56.89
29	39.09	42.56	45.72	49.59	52.34	58.30
30	40.26	43.77	46.98	50.89	53.67	59.70
31	41.42	44.99	48.23	52.19	55.00	61.10
32	42.58	46.19	49.48	53.49	56.33	62.49
33	43.75	47.40	50.73	54.78	57.65	63.87
34	44.90	48.60	51.97	56.06	58.96	65.25
35	46.06	49.80	53.20	57.34	60.27	66.62
36	47.21	51.00	54.44	58.62	61.58	67.99
37	48.36	52.19	55.67	59.89	62.88	69.35
38	49.51	53.38	56.90	61.16	64.18	70.70
39	50.66	54.57	58.12	62.43	65.48	72.05
40	51.81	55.76	59.34	63.69	66.77	73.40
50	63.17	67.50	71.42	76.15	79.49	86.66
60	74.40	79.08	83.30	88.38	91.95	99.61
80	96.58	101.88	106.63	112.33	116.32	124.84
100	118.50	124.34	129.56	135.81	140.17	149.45
120	140.23	146.57	152.21	158.95	163.65	173.62

χ^2: cuantiles críticos en cola izquierda $\chi^2_{\alpha/2,\nu}$ (dos colas)

La siguiente tabla recoge cuantiles en cola izquierda de $X \sim \chi^2(\nu)$ evaluados en $\alpha/2$: $\chi^2_{\alpha/2,\nu}$ cumple $P(X \leq \chi^2_{\alpha/2,\nu}) = \alpha/2$.

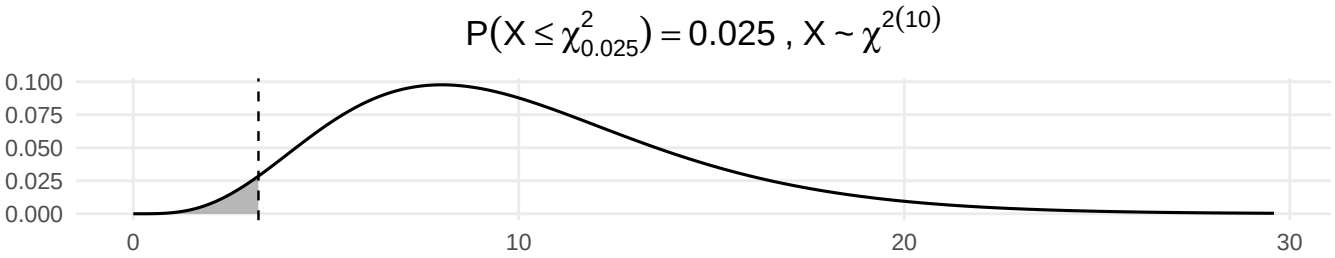


Tabla 8: Cuantiles χ^2 (cola izquierda, $\alpha/2$): $\chi^2_{\alpha/2,\nu}$ con $P(X \leq \chi^2_{\alpha/2,\nu}) = \alpha/2$, $X \sim \chi^2(\nu)$.

ν	$\alpha = 0.100$	$\alpha = 0.050$	$\alpha = 0.025$	$\alpha = 0.010$	$\alpha = 0.005$	$\alpha = 0.001$
1	0.00	0.00	0.00	0.00	0.00	0.00
2	0.10	0.05	0.03	0.01	0.01	0.00
3	0.35	0.22	0.13	0.07	0.04	0.02
4	0.71	0.48	0.33	0.21	0.14	0.06
5	1.15	0.83	0.61	0.41	0.31	0.16
6	1.64	1.24	0.95	0.68	0.53	0.30
7	2.17	1.69	1.33	0.99	0.79	0.48
8	2.73	2.18	1.76	1.34	1.10	0.71
9	3.33	2.70	2.22	1.73	1.45	0.97
10	3.94	3.25	2.71	2.16	1.83	1.26
11	4.57	3.82	3.22	2.60	2.23	1.59
12	5.23	4.40	3.75	3.07	2.66	1.93
13	5.89	5.01	4.30	3.57	3.11	2.31
14	6.57	5.63	4.87	4.07	3.58	2.70
15	7.26	6.26	5.46	4.60	4.07	3.11
16	7.96	6.91	6.05	5.14	4.57	3.54
17	8.67	7.56	6.66	5.70	5.09	3.98
18	9.39	8.23	7.28	6.26	5.62	4.44
19	10.12	8.91	7.92	6.84	6.17	4.91
20	10.85	9.59	8.56	7.43	6.72	5.40
21	11.59	10.28	9.21	8.03	7.29	5.90
22	12.34	10.98	9.86	8.64	7.86	6.40
23	13.09	11.69	10.53	9.26	8.45	6.92
24	13.85	12.40	11.20	9.89	9.04	7.45
25	14.61	13.12	11.88	10.52	9.65	7.99
26	15.38	13.84	12.57	11.16	10.26	8.54
27	16.15	14.57	13.26	11.81	10.87	9.09
28	16.93	15.31	13.96	12.46	11.50	9.66
29	17.71	16.05	14.66	13.12	12.13	10.23
30	18.49	16.79	15.37	13.79	12.76	10.80
31	19.28	17.54	16.08	14.46	13.41	11.39
32	20.07	18.29	16.80	15.13	14.06	11.98
33	20.87	19.05	17.52	15.82	14.71	12.58
34	21.66	19.81	18.24	16.50	15.37	13.18
35	22.47	20.57	18.97	17.19	16.03	13.79
36	23.27	21.34	19.71	17.89	16.70	14.40
37	24.07	22.11	20.44	18.59	17.37	15.02
38	24.88	22.88	21.18	19.29	18.05	15.64
39	25.70	23.65	21.93	20.00	18.73	16.27
40	26.51	24.43	22.68	20.71	19.42	16.91
50	34.76	32.36	30.31	27.99	26.46	23.46
60	43.19	40.48	38.17	35.53	33.79	30.34
80	60.39	57.15	54.36	51.17	49.04	44.79
100	77.93	74.22	71.01	67.33	64.86	59.90
120	95.70	91.57	87.99	83.85	81.07	75.47

χ^2: cuantiles críticos en cola derecha $\chi^2_{1-\alpha/2,\nu}$ (dos colas)

La siguiente tabla recoge cuantiles en cola derecha de $X \sim \chi^2(\nu)$ evaluados en $\alpha/2$: $\chi^2_{1-\alpha/2,\nu}$ cumple $P(X > \chi^2_{1-\alpha/2,\nu}) = \alpha/2$.

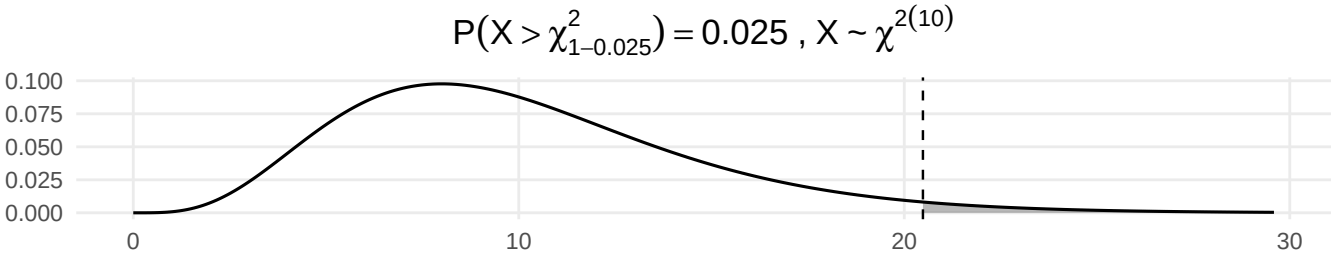
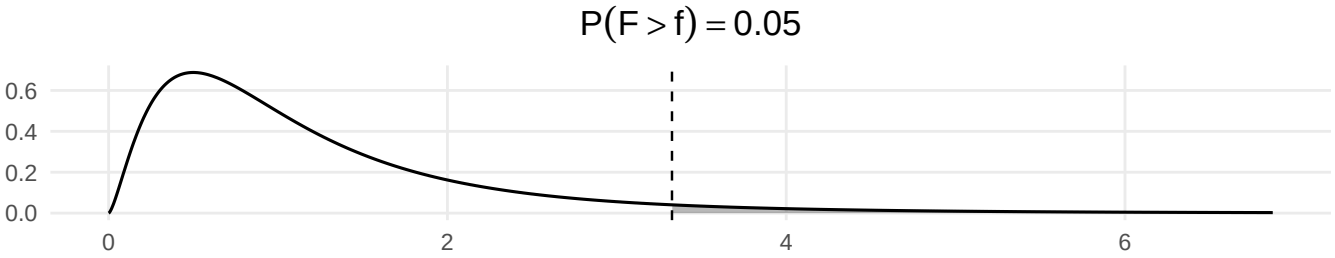


Tabla 9: Cuantiles χ^2 (cola derecha, $\alpha/2$): $\chi^2_{1-\alpha/2,\nu}$ con $P(X > \chi^2_{1-\alpha/2,\nu}) = \alpha/2$, $X \sim \chi^2(\nu)$.

ν	$\alpha = 0.100$	$\alpha = 0.050$	$\alpha = 0.025$	$\alpha = 0.010$	$\alpha = 0.005$	$\alpha = 0.001$
1	3.84	5.02	6.24	7.88	9.14	12.12
2	5.99	7.38	8.76	10.60	11.98	15.20
3	7.81	9.35	10.86	12.84	14.32	17.73
4	9.49	11.14	12.76	14.86	16.42	20.00
5	11.07	12.83	14.54	16.75	18.39	22.11
6	12.59	14.45	16.24	18.55	20.25	24.10
7	14.07	16.01	17.88	20.28	22.04	26.02
8	15.51	17.53	19.48	21.95	23.77	27.87
9	16.92	19.02	21.03	23.59	25.46	29.67
10	18.31	20.48	22.56	25.19	27.11	31.42
11	19.68	21.92	24.06	26.76	28.73	33.14
12	21.03	23.34	25.53	28.30	30.32	34.82
13	22.36	24.74	26.99	29.82	31.88	36.48
14	23.68	26.12	28.42	31.32	33.43	38.11
15	25.00	27.49	29.84	32.80	34.95	39.72
16	26.30	28.85	31.25	34.27	36.46	41.31
17	27.59	30.19	32.64	35.72	37.95	42.88
18	28.87	31.53	34.03	37.16	39.42	44.43
19	30.14	32.85	35.40	38.58	40.88	45.97
20	31.41	34.17	36.76	40.00	42.34	47.50
21	32.67	35.48	38.11	41.40	43.78	49.01
22	33.92	36.78	39.46	42.80	45.20	50.51
23	35.17	38.08	40.79	44.18	46.62	52.00
24	36.42	39.36	42.12	45.56	48.03	53.48
25	37.65	40.65	43.45	46.93	49.44	54.95
26	38.89	41.92	44.76	48.29	50.83	56.41
27	40.11	43.19	46.07	49.64	52.22	57.86
28	41.34	44.46	47.38	50.99	53.59	59.30
29	42.56	45.72	48.67	52.34	54.97	60.73
30	43.77	46.98	49.97	53.67	56.33	62.16
31	44.99	48.23	51.26	55.00	57.69	63.58
32	46.19	49.48	52.54	56.33	59.05	65.00
33	47.40	50.73	53.82	57.65	60.39	66.40
34	48.60	51.97	55.09	58.96	61.74	67.80
35	49.80	53.20	56.36	60.27	63.08	69.20
36	51.00	54.44	57.63	61.58	64.41	70.59
37	52.19	55.67	58.90	62.88	65.74	71.97
38	53.38	56.90	60.16	64.18	67.06	73.35
39	54.57	58.12	61.41	65.48	68.38	74.73
40	55.76	59.34	62.66	66.77	69.70	76.09
50	67.50	71.42	75.04	79.49	82.66	89.56
60	79.08	83.30	87.18	91.95	95.34	102.69
80	101.88	106.63	110.99	116.32	120.10	128.26
100	124.34	129.56	134.34	140.17	144.29	153.17
120	146.57	152.21	157.37	163.65	168.08	177.60

F de Snedecor: tabla crítica (cola derecha) para $\alpha = 0.05$

Tabla de valores críticos f para $F \sim F(\nu_1, \nu_2)$ en cola derecha: $P(F > f) = 0.05$. Filas: ν_2 (denominador). Columnas: ν_1 (numerador).



F crítica (cola derecha), columnas $\nu_1 = 1$–11

ν_2	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**
1	161.45	199.50	215.71	224.58	230.16	233.99	236.77	238.88	240.54	241.88	242.98
2	18.51	19.00	19.16	19.25	19.30	19.33	19.35	19.37	19.38	19.40	19.40
3	10.13	9.55	9.28	9.12	9.01	8.94	8.89	8.85	8.81	8.79	8.76
4	7.71	6.94	6.59	6.39	6.26	6.16	6.09	6.04	6.00	5.96	5.94
5	6.61	5.79	5.41	5.19	5.05	4.95	4.88	4.82	4.77	4.74	4.70
6	5.99	5.14	4.76	4.53	4.39	4.28	4.21	4.15	4.10	4.06	4.03
7	5.59	4.74	4.35	4.12	3.97	3.87	3.79	3.73	3.68	3.64	3.60
8	5.32	4.46	4.07	3.84	3.69	3.58	3.50	3.44	3.39	3.35	3.31
9	5.12	4.26	3.86	3.63	3.48	3.37	3.29	3.23	3.18	3.14	3.10
10	4.96	4.10	3.71	3.48	3.33	3.22	3.14	3.07	3.02	2.98	2.94
11	4.84	3.98	3.59	3.36	3.20	3.09	3.01	2.95	2.90	2.85	2.82
12	4.75	3.89	3.49	3.26	3.11	3.00	2.91	2.85	2.80	2.75	2.72
13	4.67	3.81	3.41	3.18	3.03	2.92	2.83	2.77	2.71	2.67	2.63
14	4.60	3.74	3.34	3.11	2.96	2.85	2.76	2.70	2.65	2.60	2.57
15	4.54	3.68	3.29	3.06	2.90	2.79	2.71	2.64	2.59	2.54	2.51
16	4.49	3.63	3.24	3.01	2.85	2.74	2.66	2.59	2.54	2.49	2.46
17	4.45	3.59	3.20	2.96	2.81	2.70	2.61	2.55	2.49	2.45	2.41
18	4.41	3.55	3.16	2.93	2.77	2.66	2.58	2.51	2.46	2.41	2.37
19	4.38	3.52	3.13	2.90	2.74	2.63	2.54	2.48	2.42	2.38	2.34
20	4.35	3.49	3.10	2.87	2.71	2.60	2.51	2.45	2.39	2.35	2.31
21	4.32	3.47	3.07	2.84	2.68	2.57	2.49	2.42	2.37	2.32	2.28
22	4.30	3.44	3.05	2.82	2.66	2.55	2.46	2.40	2.34	2.30	2.26
23	4.28	3.42	3.03	2.80	2.64	2.53	2.44	2.37	2.32	2.27	2.24
24	4.26	3.40	3.01	2.78	2.62	2.51	2.42	2.36	2.30	2.25	2.22
25	4.24	3.39	2.99	2.76	2.60	2.49	2.40	2.34	2.28	2.24	2.20
26	4.23	3.37	2.98	2.74	2.59	2.47	2.39	2.32	2.27	2.22	2.18
27	4.21	3.35	2.96	2.73	2.57	2.46	2.37	2.31	2.25	2.20	2.17
28	4.20	3.34	2.95	2.71	2.56	2.45	2.36	2.29	2.24	2.19	2.15
29	4.18	3.33	2.93	2.70	2.55	2.43	2.35	2.28	2.22	2.18	2.14
30	4.17	3.32	2.92	2.69	2.53	2.42	2.33	2.27	2.21	2.16	2.13
40	4.08	3.23	2.84	2.61	2.45	2.34	2.25	2.18	2.12	2.08	2.04
60	4.00	3.15	2.76	2.53	2.37	2.25	2.17	2.10	2.04	1.99	1.95
120	3.92	3.07	2.68	2.45	2.29	2.18	2.09	2.02	1.96	1.91	1.87

F crítica (cola derecha), columnas $\nu_1 = 12$–22

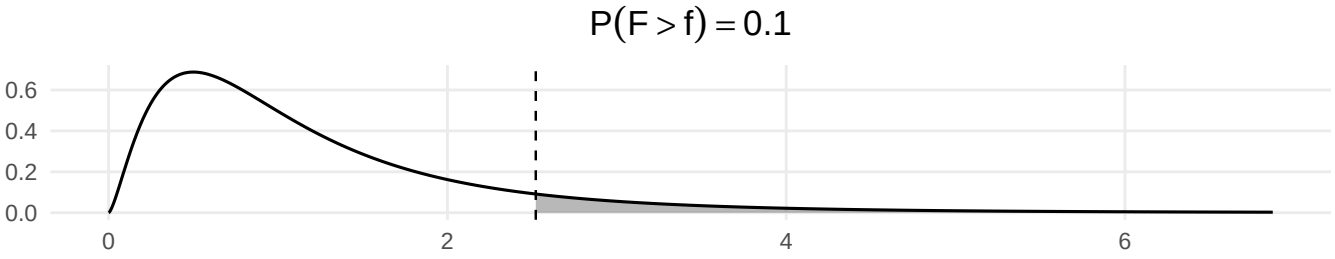
ν_2	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**
1	243.91	244.69	245.36	245.95	246.46	246.92	247.32	247.69	248.01	248.31	248.58
2	19.41	19.42	19.42	19.43	19.43	19.44	19.44	19.44	19.45	19.45	19.45
3	8.74	8.73	8.71	8.70	8.69	8.68	8.67	8.67	8.66	8.65	8.65
4	5.91	5.89	5.87	5.86	5.84	5.83	5.82	5.81	5.80	5.79	5.79
5	4.68	4.66	4.64	4.62	4.60	4.59	4.58	4.57	4.56	4.55	4.54
6	4.00	3.98	3.96	3.94	3.92	3.91	3.90	3.88	3.87	3.86	3.86
7	3.57	3.55	3.53	3.51	3.49	3.48	3.47	3.46	3.44	3.43	3.43
8	3.28	3.26	3.24	3.22	3.20	3.19	3.17	3.16	3.15	3.14	3.13
9	3.07	3.05	3.03	3.01	2.99	2.97	2.96	2.95	2.94	2.93	2.92
10	2.91	2.89	2.86	2.85	2.83	2.81	2.80	2.79	2.77	2.76	2.75
11	2.79	2.76	2.74	2.72	2.70	2.69	2.67	2.66	2.65	2.64	2.63
12	2.69	2.66	2.64	2.62	2.60	2.58	2.57	2.56	2.54	2.53	2.52
13	2.60	2.58	2.55	2.53	2.51	2.50	2.48	2.47	2.46	2.45	2.44
14	2.53	2.51	2.48	2.46	2.44	2.43	2.41	2.40	2.39	2.38	2.37
15	2.48	2.45	2.42	2.40	2.38	2.37	2.35	2.34	2.33	2.32	2.31
16	2.42	2.40	2.37	2.35	2.33	2.32	2.30	2.29	2.28	2.26	2.25
17	2.38	2.35	2.33	2.31	2.29	2.27	2.26	2.24	2.23	2.22	2.21
18	2.34	2.31	2.29	2.27	2.25	2.23	2.22	2.20	2.19	2.18	2.17
19	2.31	2.28	2.26	2.23	2.21	2.20	2.18	2.17	2.16	2.14	2.13
20	2.28	2.25	2.22	2.20	2.18	2.17	2.15	2.14	2.12	2.11	2.10
21	2.25	2.22	2.20	2.18	2.16	2.14	2.12	2.11	2.10	2.08	2.07
22	2.23	2.20	2.17	2.15	2.13	2.11	2.10	2.08	2.07	2.06	2.05
23	2.20	2.18	2.15	2.13	2.11	2.09	2.08	2.06	2.05	2.04	2.02
24	2.18	2.15	2.13	2.11	2.09	2.07	2.05	2.04	2.03	2.01	2.00
25	2.16	2.14	2.11	2.09	2.07	2.05	2.04	2.02	2.01	2.00	1.98
26	2.15	2.12	2.09	2.07	2.05	2.03	2.02	2.00	1.99	1.98	1.97
27	2.13	2.10	2.08	2.06	2.04	2.02	2.00	1.99	1.97	1.96	1.95
28	2.12	2.09	2.06	2.04	2.02	2.00	1.99	1.97	1.96	1.95	1.93
29	2.10	2.08	2.05	2.03	2.01	1.99	1.97	1.96	1.94	1.93	1.92
30	2.09	2.06	2.04	2.01	1.99	1.98	1.96	1.95	1.93	1.92	1.91
40	2.00	1.97	1.95	1.92	1.90	1.89	1.87	1.85	1.84	1.83	1.81
60	1.92	1.89	1.86	1.84	1.82	1.80	1.78	1.76	1.75	1.73	1.72
120	1.83	1.80	1.78	1.75	1.73	1.71	1.69	1.67	1.66	1.64	1.63

F crítica (cola derecha), columnas $\nu_1 = 23$–30, 40, 60, 120

ν_2	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**40**	**60**	**120**
1	248.83	249.05	249.26	249.45	249.63	249.80	249.95	250.10	251.14	252.20	253.25
2	19.45	19.45	19.46	19.46	19.46	19.46	19.46	19.46	19.47	19.48	19.49
3	8.64	8.64	8.63	8.63	8.63	8.62	8.62	8.62	8.59	8.57	8.55
4	5.78	5.77	5.77	5.76	5.76	5.75	5.75	5.75	5.72	5.69	5.66
5	4.53	4.53	4.52	4.52	4.51	4.50	4.50	4.50	4.46	4.43	4.40
6	3.85	3.84	3.83	3.83	3.82	3.82	3.81	3.81	3.77	3.74	3.70
7	3.42	3.41	3.40	3.40	3.39	3.39	3.38	3.38	3.34	3.30	3.27
8	3.12	3.12	3.11	3.10	3.10	3.09	3.08	3.08	3.04	3.01	2.97
9	2.91	2.90	2.89	2.89	2.88	2.87	2.87	2.86	2.83	2.79	2.75
10	2.75	2.74	2.73	2.72	2.72	2.71	2.70	2.70	2.66	2.62	2.58
11	2.62	2.61	2.60	2.59	2.59	2.58	2.58	2.57	2.53	2.49	2.45
12	2.51	2.51	2.50	2.49	2.48	2.48	2.47	2.47	2.43	2.38	2.34
13	2.43	2.42	2.41	2.41	2.40	2.39	2.39	2.38	2.34	2.30	2.25
14	2.36	2.35	2.34	2.33	2.33	2.32	2.31	2.31	2.27	2.22	2.18
15	2.30	2.29	2.28	2.27	2.27	2.26	2.25	2.25	2.20	2.16	2.11
16	2.24	2.24	2.23	2.22	2.21	2.21	2.20	2.19	2.15	2.11	2.06
17	2.20	2.19	2.18	2.17	2.17	2.16	2.15	2.15	2.10	2.06	2.01
18	2.16	2.15	2.14	2.13	2.13	2.12	2.11	2.11	2.06	2.02	1.97
19	2.12	2.11	2.11	2.10	2.09	2.08	2.08	2.07	2.03	1.98	1.93
20	2.09	2.08	2.07	2.07	2.06	2.05	2.05	2.04	1.99	1.95	1.90
21	2.06	2.05	2.05	2.04	2.03	2.02	2.02	2.01	1.96	1.92	1.87
22	2.04	2.03	2.02	2.01	2.00	2.00	1.99	1.98	1.94	1.89	1.84
23	2.01	2.01	2.00	1.99	1.98	1.97	1.97	1.96	1.91	1.86	1.81
24	1.99	1.98	1.97	1.97	1.96	1.95	1.95	1.94	1.89	1.84	1.79
25	1.97	1.96	1.96	1.95	1.94	1.93	1.93	1.92	1.87	1.82	1.77
26	1.96	1.95	1.94	1.93	1.92	1.91	1.91	1.90	1.85	1.80	1.75
27	1.94	1.93	1.92	1.91	1.90	1.90	1.89	1.88	1.84	1.79	1.73
28	1.92	1.91	1.91	1.90	1.89	1.88	1.88	1.87	1.82	1.77	1.71
29	1.91	1.90	1.89	1.88	1.88	1.87	1.86	1.85	1.81	1.75	1.70
30	1.90	1.89	1.88	1.87	1.86	1.85	1.85	1.84	1.79	1.74	1.68
40	1.80	1.79	1.78	1.77	1.77	1.76	1.75	1.74	1.69	1.64	1.58
60	1.71	1.70	1.69	1.68	1.67	1.66	1.66	1.65	1.59	1.53	1.47
120	1.62	1.61	1.60	1.59	1.58	1.57	1.56	1.55	1.50	1.43	1.35

F de Snedecor: tabla crítica (cola derecha) para $\alpha = 0.10$

Tabla de valores críticos f para $F \sim F(\nu_1, \nu_2)$ en cola derecha: $P(F > f) = 0.10$. Filas: ν_2 (denominador). Columnas: ν_1 (numerador).



F crítica (cola derecha), columnas $\nu_1 = 1$–11

ν_2	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**
1	39.86	49.50	53.59	55.83	57.24	58.20	58.91	59.44	59.86	60.19	60.47
2	8.53	9.00	9.16	9.24	9.29	9.33	9.35	9.37	9.38	9.39	9.40
3	5.54	5.46	5.39	5.34	5.31	5.28	5.27	5.25	5.24	5.23	5.22
4	4.54	4.32	4.19	4.11	4.05	4.01	3.98	3.95	3.94	3.92	3.91
5	4.06	3.78	3.62	3.52	3.45	3.40	3.37	3.34	3.32	3.30	3.28
6	3.78	3.46	3.29	3.18	3.11	3.05	3.01	2.98	2.96	2.94	2.92
7	3.59	3.26	3.07	2.96	2.88	2.83	2.78	2.75	2.72	2.70	2.68
8	3.46	3.11	2.92	2.81	2.73	2.67	2.62	2.59	2.56	2.54	2.52
9	3.36	3.01	2.81	2.69	2.61	2.55	2.51	2.47	2.44	2.42	2.40
10	3.29	2.92	2.73	2.61	2.52	2.46	2.41	2.38	2.35	2.32	2.30
11	3.23	2.86	2.66	2.54	2.45	2.39	2.34	2.30	2.27	2.25	2.23
12	3.18	2.81	2.61	2.48	2.39	2.33	2.28	2.24	2.21	2.19	2.17
13	3.14	2.76	2.56	2.43	2.35	2.28	2.23	2.20	2.16	2.14	2.12
14	3.10	2.73	2.52	2.39	2.31	2.24	2.19	2.15	2.12	2.10	2.07
15	3.07	2.70	2.49	2.36	2.27	2.21	2.16	2.12	2.09	2.06	2.04
16	3.05	2.67	2.46	2.33	2.24	2.18	2.13	2.09	2.06	2.03	2.01
17	3.03	2.64	2.44	2.31	2.22	2.15	2.10	2.06	2.03	2.00	1.98
18	3.01	2.62	2.42	2.29	2.20	2.13	2.08	2.04	2.00	1.98	1.95
19	2.99	2.61	2.40	2.27	2.18	2.11	2.06	2.02	1.98	1.96	1.93
20	2.97	2.59	2.38	2.25	2.16	2.09	2.04	2.00	1.96	1.94	1.91
21	2.96	2.57	2.36	2.23	2.14	2.08	2.02	1.98	1.95	1.92	1.90
22	2.95	2.56	2.35	2.22	2.13	2.06	2.01	1.97	1.93	1.90	1.88
23	2.94	2.55	2.34	2.21	2.11	2.05	1.99	1.95	1.92	1.89	1.87
24	2.93	2.54	2.33	2.19	2.10	2.04	1.98	1.94	1.91	1.88	1.85
25	2.92	2.53	2.32	2.18	2.09	2.02	1.97	1.93	1.89	1.87	1.84
26	2.91	2.52	2.31	2.17	2.08	2.01	1.96	1.92	1.88	1.86	1.83
27	2.90	2.51	2.30	2.17	2.07	2.00	1.95	1.91	1.87	1.85	1.82
28	2.89	2.50	2.29	2.16	2.06	2.00	1.94	1.90	1.87	1.84	1.81
29	2.89	2.50	2.28	2.15	2.06	1.99	1.93	1.89	1.86	1.83	1.80
30	2.88	2.49	2.28	2.14	2.05	1.98	1.93	1.88	1.85	1.82	1.79
40	2.84	2.44	2.23	2.09	2.00	1.93	1.87	1.83	1.79	1.76	1.74
60	2.79	2.39	2.18	2.04	1.95	1.87	1.82	1.77	1.74	1.71	1.68
120	2.75	2.35	2.13	1.99	1.90	1.82	1.77	1.72	1.68	1.65	1.63

F crítica (cola derecha), columnas $\nu_1 = 12$–22

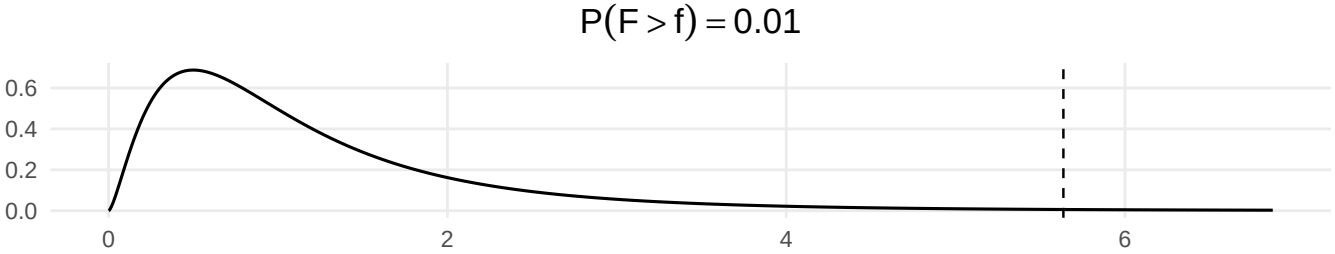
ν_2	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**
1	60.71	60.90	61.07	61.22	61.35	61.46	61.57	61.66	61.74	61.81	61.88
2	9.41	9.41	9.42	9.42	9.43	9.43	9.44	9.44	9.44	9.44	9.45
3	5.22	5.21	5.20	5.20	5.20	5.19	5.19	5.19	5.18	5.18	5.18
4	3.90	3.89	3.88	3.87	3.86	3.86	3.85	3.85	3.84	3.84	3.84
5	3.27	3.26	3.25	3.24	3.23	3.22	3.22	3.21	3.21	3.20	3.20
6	2.90	2.89	2.88	2.87	2.86	2.85	2.85	2.84	2.84	2.83	2.83
7	2.67	2.65	2.64	2.63	2.62	2.61	2.61	2.60	2.59	2.59	2.58
8	2.50	2.49	2.48	2.46	2.45	2.45	2.44	2.43	2.42	2.42	2.41
9	2.38	2.36	2.35	2.34	2.33	2.32	2.31	2.30	2.30	2.29	2.29
10	2.28	2.27	2.26	2.24	2.23	2.22	2.22	2.21	2.20	2.19	2.19
11	2.21	2.19	2.18	2.17	2.16	2.15	2.14	2.13	2.12	2.12	2.11
12	2.15	2.13	2.12	2.10	2.09	2.08	2.08	2.07	2.06	2.05	2.05
13	2.10	2.08	2.07	2.05	2.04	2.03	2.02	2.01	2.01	2.00	1.99
14	2.05	2.04	2.02	2.01	2.00	1.99	1.98	1.97	1.96	1.96	1.95
15	2.02	2.00	1.99	1.97	1.96	1.95	1.94	1.93	1.92	1.92	1.91
16	1.99	1.97	1.95	1.94	1.93	1.92	1.91	1.90	1.89	1.88	1.88
17	1.96	1.94	1.93	1.91	1.90	1.89	1.88	1.87	1.86	1.86	1.85
18	1.93	1.92	1.90	1.89	1.87	1.86	1.85	1.84	1.84	1.83	1.82
19	1.91	1.89	1.88	1.86	1.85	1.84	1.83	1.82	1.81	1.81	1.80
20	1.89	1.87	1.86	1.84	1.83	1.82	1.81	1.80	1.79	1.79	1.78
21	1.87	1.86	1.84	1.83	1.81	1.80	1.79	1.78	1.78	1.77	1.76
22	1.86	1.84	1.83	1.81	1.80	1.79	1.78	1.77	1.76	1.75	1.74
23	1.84	1.83	1.81	1.80	1.78	1.77	1.76	1.75	1.74	1.74	1.73
24	1.83	1.81	1.80	1.78	1.77	1.76	1.75	1.74	1.73	1.72	1.71
25	1.82	1.80	1.79	1.77	1.76	1.75	1.74	1.73	1.72	1.71	1.70
26	1.81	1.79	1.77	1.76	1.75	1.73	1.72	1.71	1.71	1.70	1.69
27	1.80	1.78	1.76	1.75	1.74	1.72	1.71	1.70	1.70	1.69	1.68
28	1.79	1.77	1.75	1.74	1.73	1.71	1.70	1.69	1.69	1.68	1.67
29	1.78	1.76	1.75	1.73	1.72	1.71	1.69	1.68	1.68	1.67	1.66
30	1.77	1.75	1.74	1.72	1.71	1.70	1.69	1.68	1.67	1.66	1.65
40	1.71	1.70	1.68	1.66	1.65	1.64	1.62	1.61	1.61	1.60	1.59
60	1.66	1.64	1.62	1.60	1.59	1.58	1.56	1.55	1.54	1.53	1.53
120	1.60	1.58	1.56	1.55	1.53	1.52	1.50	1.49	1.48	1.47	1.46

F crítica (cola derecha), columnas $\nu_1 = 23$–30, 40, 60, 120

ν_2	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**40**	**60**	**120**
1	61.95	62.00	62.05	62.10	62.15	62.19	62.23	62.26	62.53	62.79	63.06
2	9.45	9.45	9.45	9.45	9.45	9.46	9.46	9.46	9.47	9.47	9.48
3	5.18	5.18	5.17	5.17	5.17	5.17	5.17	5.17	5.16	5.15	5.14
4	3.83	3.83	3.83	3.83	3.82	3.82	3.82	3.82	3.80	3.79	3.78
5	3.19	3.19	3.19	3.18	3.18	3.18	3.18	3.17	3.16	3.14	3.12
6	2.82	2.82	2.81	2.81	2.81	2.81	2.80	2.80	2.78	2.76	2.74
7	2.58	2.58	2.57	2.57	2.56	2.56	2.56	2.56	2.54	2.51	2.49
8	2.41	2.40	2.40	2.40	2.39	2.39	2.39	2.38	2.36	2.34	2.32
9	2.28	2.28	2.27	2.27	2.26	2.26	2.26	2.25	2.23	2.21	2.18
10	2.18	2.18	2.17	2.17	2.17	2.16	2.16	2.16	2.13	2.11	2.08
11	2.11	2.10	2.10	2.09	2.09	2.08	2.08	2.08	2.05	2.03	2.00
12	2.04	2.04	2.03	2.03	2.02	2.02	2.01	2.01	1.99	1.96	1.93
13	1.99	1.98	1.98	1.97	1.97	1.96	1.96	1.96	1.93	1.90	1.88
14	1.94	1.94	1.93	1.93	1.92	1.92	1.92	1.91	1.89	1.86	1.83
15	1.90	1.90	1.89	1.89	1.88	1.88	1.88	1.87	1.85	1.82	1.79
16	1.87	1.87	1.86	1.86	1.85	1.85	1.84	1.84	1.81	1.78	1.75
17	1.84	1.84	1.83	1.83	1.82	1.82	1.81	1.81	1.78	1.75	1.72
18	1.82	1.81	1.80	1.80	1.80	1.79	1.79	1.78	1.75	1.72	1.69
19	1.79	1.79	1.78	1.78	1.77	1.77	1.76	1.76	1.73	1.70	1.67
20	1.77	1.77	1.76	1.76	1.75	1.75	1.74	1.74	1.71	1.68	1.64
21	1.75	1.75	1.74	1.74	1.73	1.73	1.72	1.72	1.69	1.66	1.62
22	1.74	1.73	1.73	1.72	1.72	1.71	1.71	1.70	1.67	1.64	1.60
23	1.72	1.72	1.71	1.70	1.70	1.69	1.69	1.69	1.66	1.62	1.59
24	1.71	1.70	1.70	1.69	1.69	1.68	1.68	1.67	1.64	1.61	1.57
25	1.70	1.69	1.68	1.68	1.67	1.67	1.66	1.66	1.63	1.59	1.56
26	1.68	1.68	1.67	1.67	1.66	1.66	1.65	1.65	1.61	1.58	1.54
27	1.67	1.67	1.66	1.65	1.65	1.64	1.64	1.64	1.60	1.57	1.53
28	1.66	1.66	1.65	1.64	1.64	1.63	1.63	1.63	1.59	1.56	1.52
29	1.65	1.65	1.64	1.63	1.63	1.62	1.62	1.62	1.58	1.55	1.51
30	1.64	1.64	1.63	1.63	1.62	1.62	1.61	1.61	1.57	1.54	1.50
40	1.58	1.57	1.57	1.56	1.56	1.55	1.55	1.54	1.51	1.47	1.42
60	1.52	1.51	1.50	1.50	1.49	1.49	1.48	1.48	1.44	1.40	1.35
120	1.46	1.45	1.44	1.43	1.43	1.42	1.41	1.41	1.37	1.32	1.26

F de Snedecor: tabla crítica (cola derecha) para $\alpha = 0.01$

Tabla de valores críticos f para $F \sim F(\nu_1, \nu_2)$ en cola derecha: $P(F > f) = 0.01$. Filas: ν_2 (denominador). Columnas: ν_1 (numerador).



F crítica (cola derecha), columnas $\nu_1 = 1$–11

ν_2	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**
1	4052.18	4999.50	5403.35	5624.58	5763.65	5858.99	5928.36	5981.07	6022.47	6055.85	6083.32
2	98.50	99.00	99.17	99.25	99.30	99.33	99.36	99.37	99.39	99.40	99.41
3	34.12	30.82	29.46	28.71	28.24	27.91	27.67	27.49	27.35	27.23	27.13
4	21.20	18.00	16.69	15.98	15.52	15.21	14.98	14.80	14.66	14.55	14.45
5	16.26	13.27	12.06	11.39	10.97	10.67	10.46	10.29	10.16	10.05	9.96
6	13.75	10.92	9.78	9.15	8.75	8.47	8.26	8.10	7.98	7.87	7.79
7	12.25	9.55	8.45	7.85	7.46	7.19	6.99	6.84	6.72	6.62	6.54
8	11.26	8.65	7.59	7.01	6.63	6.37	6.18	6.03	5.91	5.81	5.73
9	10.56	8.02	6.99	6.42	6.06	5.80	5.61	5.47	5.35	5.26	5.18
10	10.04	7.56	6.55	5.99	5.64	5.39	5.20	5.06	4.94	4.85	4.77
11	9.65	7.21	6.22	5.67	5.32	5.07	4.89	4.74	4.63	4.54	4.46
12	9.33	6.93	5.95	5.41	5.06	4.82	4.64	4.50	4.39	4.30	4.22
13	9.07	6.70	5.74	5.21	4.86	4.62	4.44	4.30	4.19	4.10	4.02
14	8.86	6.51	5.56	5.04	4.69	4.46	4.28	4.14	4.03	3.94	3.86
15	8.68	6.36	5.42	4.89	4.56	4.32	4.14	4.00	3.89	3.80	3.73
16	8.53	6.23	5.29	4.77	4.44	4.20	4.03	3.89	3.78	3.69	3.62
17	8.40	6.11	5.18	4.67	4.34	4.10	3.93	3.79	3.68	3.59	3.52
18	8.29	6.01	5.09	4.58	4.25	4.01	3.84	3.71	3.60	3.51	3.43
19	8.18	5.93	5.01	4.50	4.17	3.94	3.77	3.63	3.52	3.43	3.36
20	8.10	5.85	4.94	4.43	4.10	3.87	3.70	3.56	3.46	3.37	3.29
21	8.02	5.78	4.87	4.37	4.04	3.81	3.64	3.51	3.40	3.31	3.24
22	7.95	5.72	4.82	4.31	3.99	3.76	3.59	3.45	3.35	3.26	3.18
23	7.88	5.66	4.76	4.26	3.94	3.71	3.54	3.41	3.30	3.21	3.14
24	7.82	5.61	4.72	4.22	3.90	3.67	3.50	3.36	3.26	3.17	3.09
25	7.77	5.57	4.68	4.18	3.85	3.63	3.46	3.32	3.22	3.13	3.06
26	7.72	5.53	4.64	4.14	3.82	3.59	3.42	3.29	3.18	3.09	3.02
27	7.68	5.49	4.60	4.11	3.78	3.56	3.39	3.26	3.15	3.06	2.99
28	7.64	5.45	4.57	4.07	3.75	3.53	3.36	3.23	3.12	3.03	2.96
29	7.60	5.42	4.54	4.04	3.73	3.50	3.33	3.20	3.09	3.00	2.93
30	7.56	5.39	4.51	4.02	3.70	3.47	3.30	3.17	3.07	2.98	2.91
40	7.31	5.18	4.31	3.83	3.51	3.29	3.12	2.99	2.89	2.80	2.73
60	7.08	4.98	4.13	3.65	3.34	3.12	2.95	2.82	2.72	2.63	2.56
120	6.85	4.79	3.95	3.48	3.17	2.96	2.79	2.66	2.56	2.47	2.40

F crítica (cola derecha), columnas $\nu_1 = 12$–22

ν_2	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**
1	6106.32	6125.86	6142.67	6157.28	6170.10	6181.43	6191.53	6200.58	6208.73	6216.12	6222.84
2	99.42	99.42	99.43	99.43	99.44	99.44	99.44	99.45	99.45	99.45	99.45
3	27.05	26.98	26.92	26.87	26.83	26.79	26.75	26.72	26.69	26.66	26.64
4	14.37	14.31	14.25	14.20	14.15	14.11	14.08	14.05	14.02	13.99	13.97
5	9.89	9.82	9.77	9.72	9.68	9.64	9.61	9.58	9.55	9.53	9.51
6	7.72	7.66	7.60	7.56	7.52	7.48	7.45	7.42	7.40	7.37	7.35
7	6.47	6.41	6.36	6.31	6.28	6.24	6.21	6.18	6.16	6.13	6.11
8	5.67	5.61	5.56	5.52	5.48	5.44	5.41	5.38	5.36	5.34	5.32
9	5.11	5.05	5.01	4.96	4.92	4.89	4.86	4.83	4.81	4.79	4.77
10	4.71	4.65	4.60	4.56	4.52	4.49	4.46	4.43	4.41	4.38	4.36
11	4.40	4.34	4.29	4.25	4.21	4.18	4.15	4.12	4.10	4.08	4.06
12	4.16	4.10	4.05	4.01	3.97	3.94	3.91	3.88	3.86	3.84	3.82
13	3.96	3.91	3.86	3.82	3.78	3.75	3.72	3.69	3.66	3.64	3.62
14	3.80	3.75	3.70	3.66	3.62	3.59	3.56	3.53	3.51	3.48	3.46
15	3.67	3.61	3.56	3.52	3.49	3.45	3.42	3.40	3.37	3.35	3.33
16	3.55	3.50	3.45	3.41	3.37	3.34	3.31	3.28	3.26	3.24	3.22
17	3.46	3.40	3.35	3.31	3.27	3.24	3.21	3.19	3.16	3.14	3.12
18	3.37	3.32	3.27	3.23	3.19	3.16	3.13	3.10	3.08	3.05	3.03
19	3.30	3.24	3.19	3.15	3.12	3.08	3.05	3.03	3.00	2.98	2.96
20	3.23	3.18	3.13	3.09	3.05	3.02	2.99	2.96	2.94	2.92	2.90
21	3.17	3.12	3.07	3.03	2.99	2.96	2.93	2.90	2.88	2.86	2.84
22	3.12	3.07	3.02	2.98	2.94	2.91	2.88	2.85	2.83	2.81	2.78
23	3.07	3.02	2.97	2.93	2.89	2.86	2.83	2.80	2.78	2.76	2.74
24	3.03	2.98	2.93	2.89	2.85	2.82	2.79	2.76	2.74	2.72	2.70
25	2.99	2.94	2.89	2.85	2.81	2.78	2.75	2.72	2.70	2.68	2.66
26	2.96	2.90	2.86	2.81	2.78	2.75	2.72	2.69	2.66	2.64	2.62
27	2.93	2.87	2.82	2.78	2.75	2.71	2.68	2.66	2.63	2.61	2.59
28	2.90	2.84	2.79	2.75	2.72	2.68	2.65	2.63	2.60	2.58	2.56
29	2.87	2.81	2.77	2.73	2.69	2.66	2.63	2.60	2.57	2.55	2.53
30	2.84	2.79	2.74	2.70	2.66	2.63	2.60	2.57	2.55	2.53	2.51
40	2.66	2.61	2.56	2.52	2.48	2.45	2.42	2.39	2.37	2.35	2.33
60	2.50	2.44	2.39	2.35	2.31	2.28	2.25	2.22	2.20	2.17	2.15
120	2.34	2.28	2.23	2.19	2.15	2.12	2.09	2.06	2.03	2.01	1.99

F crítica (cola derecha), columnas $\nu_1 = 23$–30, 40, 60, 120

ν_2	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**40**	**60**	**120**
1	6228.99	6234.63	6239.83	6244.62	6249.07	6253.20	6257.05	6260.65	6286.78	6313.03	6339.39
2	99.46	99.46	99.46	99.46	99.46	99.46	99.46	99.47	99.47	99.48	99.49
3	26.62	26.60	26.58	26.56	26.55	26.53	26.52	26.50	26.41	26.32	26.22
4	13.95	13.93	13.91	13.89	13.88	13.86	13.85	13.84	13.75	13.65	13.56
5	9.49	9.47	9.45	9.43	9.42	9.40	9.39	9.38	9.29	9.20	9.11
6	7.33	7.31	7.30	7.28	7.27	7.25	7.24	7.23	7.14	7.06	6.97
7	6.09	6.07	6.06	6.04	6.03	6.02	6.00	5.99	5.91	5.82	5.74
8	5.30	5.28	5.26	5.25	5.23	5.22	5.21	5.20	5.12	5.03	4.95
9	4.75	4.73	4.71	4.70	4.68	4.67	4.66	4.65	4.57	4.48	4.40
10	4.34	4.33	4.31	4.30	4.28	4.27	4.26	4.25	4.17	4.08	4.00
11	4.04	4.02	4.01	3.99	3.98	3.96	3.95	3.94	3.86	3.78	3.69
12	3.80	3.78	3.76	3.75	3.74	3.72	3.71	3.70	3.62	3.54	3.45
13	3.60	3.59	3.57	3.56	3.54	3.53	3.52	3.51	3.43	3.34	3.25
14	3.44	3.43	3.41	3.40	3.38	3.37	3.36	3.35	3.27	3.18	3.09
15	3.31	3.29	3.28	3.26	3.25	3.24	3.23	3.21	3.13	3.05	2.96
16	3.20	3.18	3.16	3.15	3.14	3.12	3.11	3.10	3.02	2.93	2.84
17	3.10	3.08	3.07	3.05	3.04	3.03	3.01	3.00	2.92	2.83	2.75
18	3.02	3.00	2.98	2.97	2.95	2.94	2.93	2.92	2.84	2.75	2.66
19	2.94	2.92	2.91	2.89	2.88	2.87	2.86	2.84	2.76	2.67	2.58
20	2.88	2.86	2.84	2.83	2.81	2.80	2.79	2.78	2.69	2.61	2.52
21	2.82	2.80	2.79	2.77	2.76	2.74	2.73	2.72	2.64	2.55	2.46
22	2.77	2.75	2.73	2.72	2.70	2.69	2.68	2.67	2.58	2.50	2.40
23	2.72	2.70	2.69	2.67	2.66	2.64	2.63	2.62	2.54	2.45	2.35
24	2.68	2.66	2.64	2.63	2.61	2.60	2.59	2.58	2.49	2.40	2.31
25	2.64	2.62	2.60	2.59	2.58	2.56	2.55	2.54	2.45	2.36	2.27
26	2.60	2.58	2.57	2.55	2.54	2.53	2.51	2.50	2.42	2.33	2.23
27	2.57	2.55	2.54	2.52	2.51	2.49	2.48	2.47	2.38	2.29	2.20
28	2.54	2.52	2.51	2.49	2.48	2.46	2.45	2.44	2.35	2.26	2.17
29	2.51	2.49	2.48	2.46	2.45	2.44	2.42	2.41	2.33	2.23	2.14
30	2.49	2.47	2.45	2.44	2.42	2.41	2.40	2.39	2.30	2.21	2.11
40	2.31	2.29	2.27	2.26	2.24	2.23	2.22	2.20	2.11	2.02	1.92
60	2.13	2.12	2.10	2.08	2.07	2.05	2.04	2.03	1.94	1.84	1.73
120	1.97	1.95	1.93	1.92	1.90	1.89	1.87	1.86	1.76	1.66	1.53

Kolmogorov–Smirnov (una muestra): valores críticos asintóticos

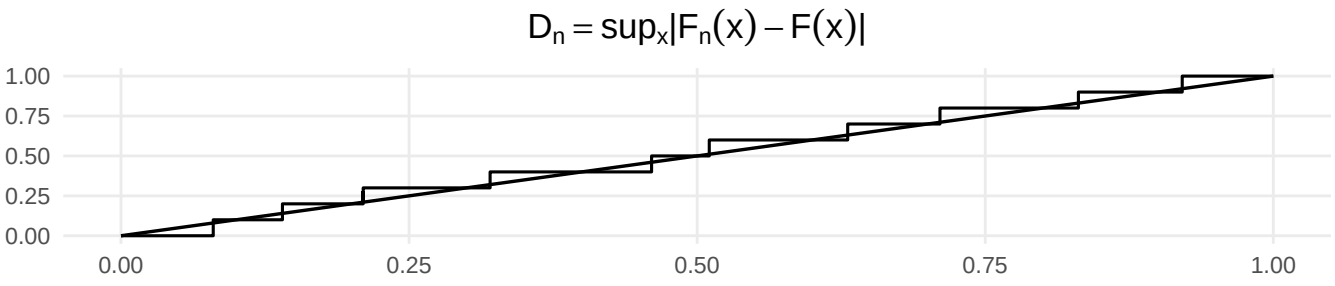


Tabla 19: Constantes asintóticas de Kolmogorov–Smirnov: $K_{\alpha,n} \approx c_\alpha/\sqrt{n}$.

α	c_α
0.100	1.2240
0.050	1.3580
0.025	1.4800
0.020	1.5170
0.010	1.6280
0.005	1.7310
0.001	1.9490

Licencia y créditos

Licencia. Este documento (contenido y maquetación) se publica bajo licencia **Creative Commons Attribution 4.0 International (CC BY 4.0)**.

Créditos técnicos. Las tablas y figuras se han generado con **R** (base) y paquetes de uso general como **knitr**, **kableExtra** y **ggplot2**, utilizando funciones estándar para distribución y cuantiles (p. ej., `pnorm/qnorm`, `pt/qt`, `pchisq/qchisq`, `pf/qf`).

Referencias (software)

R Core Team. (2025). *R: A language and environment for statistical computing*. R Foundation for Statistical Computing, Vienna, Austria.

Wickham, H. (2016). *ggplot2: Elegant Graphics for Data Analysis*. Springer.

Xie, Y. (2025). *knitr: A General-Purpose Package for Dynamic Report Generation in R* (R package). https://yihui.org/knitr/

Xie, Y., Allaire, J. J., & Grolemund, G. (2018). *R Markdown: The Definitive Guide*. Chapman & Hall/CRC.

Zhu, H. (2024). *kableExtra: Construct Complex Table with "kable" and Pipe Syntax* (R package). https://CRAN.R-project.org/package=kableExtra