ANEXO 1. TABLAS DE COEFICIENTES POLINÓMICOS

Coeficientes de polinomios ortogonales

X_i	$a=3$		$a=4$			$a=5$				$a=6$					$a=7$					
	P_1	P_2	P_1	P_2	P_3	P_1	P_2	P_3	P_4	P_1	P_2	P_3	P_4	P_5	P_1	P_2	P_3	P_4	P_5	P_6
1	-1	1	-3	1	-1	-2	2	-1	1	-5	5	-5	1	-1	-3	5	-1	3	-1	1
2	0	-2	-1	-1	3	-1	-1	2	-4	-3	-1	7	-3	5	-2	0	1	-7	4	-6
3	1	1	1	-1	-3	0	-2	0	6	-1	-4	4	2	-10	-1	-3	1	1	-5	15
4			3	1	1	1	-1	-2	-4	1	-4	-4	2	10	0	-4	0	6	0	-20
5						2	2	1	1	3	-1	7	-3	-5	1	-3	-1	1	5	15
6										5	5	5	1	1	2	0	-1	-7	-4	-6
7															3	5	1	3	1	1
$\sum_{j=1}^{n}\{P_i(X_j)\}^2$	2	6	20	4	20	10	14	10	70	70	84	180	28	252	28	84	6	154	84	924
λ	1	3	2	1	$\frac{10}{3}$	1	1	$\frac{5}{6}$	$\frac{35}{12}$	2	$\frac{3}{2}$	$\frac{5}{3}$	$\frac{7}{12}$	$\frac{21}{10}$	1	1	$\frac{1}{6}$	$\frac{7}{12}$	$\frac{7}{20}$	$\frac{77}{60}$

Tabla obtenida de Biometrika Tables for Statisticians. Vol. 1, 3a ed., por E.S. Pearson y H. O. Hartley. Cambridge University Press. Cambridge 1966.

ANEXO 2. TABLA DE LA DISTRIBUCIÓN NORMAL ESTÁNDAR

Valores de la función de distribución acumulativa normal estándar

Z	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
-4.5	0,0000033976	0,0000032413	0,000003091	0,0000029491	0,000002812	0,0000026822	0,000002557	0,000002438	0,0000023248	0,0000022162
-4.4	0,000004293514	0,000005168531	0,000004935045	0,000004711654	0,000004497943	0,000004293514	0,000004097982	0,000003910979	0,000003732152	0,000003561157
-4.3	0,000008539905	0,000008162727	0,000007801460	0,000007455467	0,000007124135	0,000006806876	0,000006503122	0,000006212326	0,000005933965	0,000005667530
-4.2	0,000013345749	0,000012768534	0,0000122151159	0,000011684565	0,0000111759893	0,000010688525	0,000010221345	0,000009773648	0,000009344665	0,000008933655
-4.1	0,000020657506	0,000019782955	0,000018943619	0,0000181381617	0,0000173652911	0,000016623763	0,000015912379	0,000015229981	0,000014575454	0,000013947722
-4.0	0,0000316712418	0,000030359373	0,000029099070	0,000027888426	0,000026725600	0,000025608816	0,000024536358	0,000023506568	0,000022517850	0,000021568659
-3.9	0,000048096344	0,000046148060	0,000044274484	0,000042472930	0,000040740804	0,000039075596	0,000037474881	0,000035936315	0,000034457634	0,000033036647
-3.8	0,000072348043	0,000069483395	0,000066725837	0,000064071629	0,0000615171552	0,000059058912	0,000056693512	0,000054417676	0,000052228232	0,0000501221110
-3.7	0,000107799733	0,000103629623	0,000099611389	0,000095739885	0,000092010127	0,000088417285	0,000084956678	0,000081623773	0,000078414179	0,000075323642
-3.6	0,000159108590	0,000153098502	0,000147301507	0,0001417106099	0,000136319020	0,0001311201544	0,0001261076241	0,000121275234	0,0001166169768	0,0001121270260
-3.5	0,000232629079	0,000224053347	0,000215773393	0,000207779833	0,000200063516	0,000192615575	0,000185427396	0,000178490613	0,0001717971037	0,000165338980
-3.4	0,000336929265	0,000324814397	0,000313105678	0,000301790624	0,000290857093	0,000280293276	0,000270087694	0,000260229182	0,000250706891	0,000241510273
-3.3	0,000483424142	0,000466479856	0,000450087240	0,000434229920	0,000418891949	0,000404057801	0,000389712362	0,000375840918	0,000362429149	0,000349463118
-3.2	0,000687137937	0,000663674861	0,000640952983	0,000618951090	0,000597648497	0,000577025042	0,000557061069	0,000537737421	0,000519035433	0,000500936913
-3.1	0,000967603213	0,000935436719	0,000904255199	0,000874031515	0,000844739173	0,000699154202	0,000788845694	0,000762194688	0,000736375261	0,000711363968

Valores de la función de distribución acumulativa normal estándar

Z	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
-3.0	0,001349898031	0,001306238448	0,001263873427	0,001222768693	0,0011828907431	0,0011442068310	0,001106684957	0,001070293854	0,001035002974	0,001000782476
-2.9	0,001865813300	0,001807143780	0,001750156928	0,0016948100193	0,0016410612342	0,001588869647	0,0015381952117	0,001488998745	0,0014412419173	0,001394887235
-2.8	0,002555130330	0,002477074998	0,002401182474	0,002327400206	0,002255676691	0,002185961454	0,002118205040	0,002052358994	0,001988375854	0,001926209132
-2.7	0,003466973803	0,003364160407	0,003264095815	0,003166716277	0,003071959218	0,002979763235	0,002890068076	0,002802814632	0,002717944922	0,002635402077
-2.6	0,004661188023	0,0045271111330	0,004396488348	0,004269243409	0,0041453013610	0,004024588542	0,003907032574	0,003792562347	0,003681108009	0,003572600952
-2.5	0,006209665325	0,006036558080	0,005867741715	0,005703126333	0,005542623443	0,005386145954	0,005233608163	0,005084925749	0,004940015757	0,004798796597
-2.4	0,008197535924	0,007976260260	0,007760253550	0,0075494114163	0,007343630955	0,007142810735	0,006946850788	0,006755652607	0,0065691191355	0,006387154764
-2.3	0,0107241100217	0,010444077062	0,010170438668	0,009903075559	0,009641869945	0,009386705534	0,009137467530	0,008894042630	0,008656319025	0,008424186399
-2.2	0,013903447513	0,0135525811464	0,013209383807	0,012873721438	0,012545461435	0,012224472655	0,0119106254185	0,0116037915219	0,011303844238	0,0110106583244
-2.1	0,017864420562	0,017429177937	0,017003022647	0,016585806683	0,016177383372	0,0157776073911	0,015386334783	0,015003422973	0,014628730776	0,0142621184107
-2.0	0,02275013194	0,02221559442	0,02169169376	0,02117826964	0,02067516286	0,02018221540	0,01969927040	0,01922617222	0,01876276643	0,01830889985
-1.9	0,028716559816	0,028066606659	0,027428949703	0,026803418877	0,026189844940	0,025588059521	0,024997895148	0,024419185280	0,023851764341	0,023295467750
-1.8	0,0359303191129	0,035147893584	0,034379502445	0,033624969419	0,032884118659	0,032156774795	0,031442762980	0,030741908929	0,030054038961	0,029378980040
-1.7	0,044565462758	0,043632936524	0,042716220791	0,0418151376136	0,040929508978	0,040059156863	0,039203903287	0,038363570362	0,037537980348	0,036726955698
-1.6	0,054799291699	0,053698928148	0,052616138454	0,051550748490	0,050502583474	0,049471468033	0,048457226266	0,047459681802	0,046478657863	0,045513977321
-1.5	0,066807201268	0,065521712089	0,064255487818	0,063008364464	0,0617801767118	0,060570758002	0,059379940594	0,058207555638	0,057053433237	0,055917402519
-1.4	0,080756659233	0,079269841453	0,077803840526	0,076358509536	0,074933699534	0,073529259609	0,072145036965	0,070780876991	0,069436623333	0,0681121179667

Valores de la función de distribución acumulativa normal estándar

Z	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
-1.3	0,096800484585	0,095097917795	0,093417508993	0,091759135650	0,090122672464	0,088507991437	0,0869149619471	0,085343450822	0,083793322415	0,082264438677
-1.2	0,115069670221	0,113139446444	0,111232437447	0,109348552425	0,107487697074	0,105649773666	0,10383468112	0,102042315074	0,100272567954	0,098525329049
-1.1	0,135666060946	0,133499513242	0,131356881042	0,129238112240	0,127143150562	0,125071935637	0,123024403051	0,121000484421	0,119000107455	0,11702319602
-1.0	0,158655253931	0,156247645021	0,153864230372	0,151505002788	0,149169950331	0,146859056375	0,144572299663	0,142309654355	0,140071090088	0,137856572032
-0.9	0,184060125346	0,18141125489	0,178786379614	0,176185542245	0,173608780338	0,171056126308	0,16852760746	0,16602324606	0,163543059327	0,161087059510
-0.8	0,211855398583	0,208970087871	0,206108053585	0,203269391828	0,200454193260	0,197662543122	0,19489452125 1	0,192150202103	0,189429654776	0,186732943037
-0.7	0,241963652223	0,238852068090	0,235762497779	0,232695092300	0,229649997164	0,226627352376	0,223627292437	0,220649946342	0,217695437585	0,214763884163
-0.6	0,2742531177501	0,270930903783	0,267628893469	0,264347292115	0,261086299692	0,257846110805	0,254626914671	0,251428895095	0,248252230453	0,245097093674
-0.5	0,308537538726	0,305025730897	0,301531787547	0,298055965394	0,294598516215	0,291159686788	0,287739718849	0,284338849046	0,280957308898	0,277595324753
-0.4	0,344578258389	0,340902973772	0,337242726848	0,333597820595	0,329968553660	0,326355220287	0,322758110250	0,319177508782	0,315613696516	0,312066949417
-0.3	0,382088577811	0,378280478178	0,374484165276	0,370699981059	0,366928263964	0,363169348824	0,359423566782	0,355691245199	0,351972707575	0,348268273464
-0.2	0,420740290560	0,416833836517	0,412935577358	0,409045884858	0,405165128302	0,40129367431	0,397431886798	0,393580126802	0,389738752444	0,38590811880
-0.1	0,460172162723	0,456204687457	0,452241573979	0,448283213345	0,444329995194	0,440382307629	0,436440537108	0,432505068325	0,428576284099	0,424654565265
-0.0	0,500000000000	0,496010643685	0,492021686283	0,488033526585	0,484046563147	0,48006119416	0,47607781734	0,472096829819	0,468118627986	0,464143607414

Valores de la función de distribución acumulativa normal estándar

Z	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.0	0,5000000000000	0,503989356314	0,5079783137169	0,5119664734141	0,5159534368528	0,5199388058384	0,5239221826541	0,5279031701805	0,5318813720	0,5358563925852
0.1	0,539827837277	0,54379531254	0,547758426020	0,551716786654	0,555670004805	0,559617692370	0,563559462891	0,567494931675	0,571423715900	0,575345434734
0.2	0,579259709439	0,58316616348	0,587064422648	0,590954115142	0,594834871697	0,598706325682	0,602568113201	0,606419873198	0,610261247555	0,61409188119
0.3	0,61791142218	0,62171952182	0,625515834723	0,629300018940	0,633071736036	0,636830651175	0,640576433218	0,644308754800	0,648027292424	0,651731726536
0.4	0,655421741610	0,659097026227	0,662757273151	0,666402179404	0,670031446339	0,673644779712	0,677241889749	0,680822491217	0,684386303483	0,687933050582
0.5	0,691462461274	0,694974269102	0,698468212453	0,701944034605	0,705401483784	0,708840313211	0,71226028115	0,715661150953	0,719042691101	0,722404675246
0.6	0,725746882249	0,729069096217	0,732371106531	0,735652707884	0,738913700307	0,74215388919	0,745373085328	0,748571104904	0,75174776954	0,754902906325
0.7	0,758036347776	0,76114793191	0,764237502220	0,767304907699	0,770350002835	0,773372647623	0,776372707562	0,779350053657	0,782304562414	0,785236115836
0.8	0,788144601416	0,791029912128	0,793891946414	0,796730608171	0,799545806739	0,802337456877	0,805105478748	0,807849797896	0,810570345223	0,813267056968
0.9	0,815939874653	0,818588745108	0,821213620385	0,823814457754	0,826391219661	0,828943873691	0,831472392533	0,833976753936	0,836456940672	0,838912940489
1.0	0,841344746068	0,843752354978	0,846135769627	0,848494997211	0,850830049669	0,853140943624	0,855427700336	0,857690345644	0,859928909911	0,862143427968
1.1	0,864333939053	0,866500486757	0,868643118957	0,870761887760	0,872856849437	0,874928064362	0,876975596948	0,878999515579	0,880999892544	0,882976803976
1.2	0,884930329773	0,886860553556	0,888767562552	0,890651447574	0,892512302925	0,894350226333	0,896165318878	0,897957684925	0,899727432045	0,901474670950
1.3	0,903199515414	0,904902082204	0,906582491006	0,908240864349	0,909877327535	0,911492008562	0,913085038052	0,914656549178	0,916206677585	0,917735561322
1.4	0,919243340766	0,920730158546	0,922196159473	0,923641490463	0,925066300465	0,926470740390	0,927854963034	0,929219123008	0,930563376666	0,931887882033
1.5	0,93319279873	0,93447828791	0,93574451218	0,936991635536	0,938219823288	0,939429241997	0,940620059405	0,941792444361	0,942946566762	0,944082597480
1.6	0,945200708300	0,946301071851	0,947383861545	0,948449251509	0,949497416525	0,950528531966	0,951542773733	0,95254031819	0,953521342136	0,954486022678
1.7	0,955434537241	0,956367063476	0,957283779208	0,958184862386	0,959070491021	0,959940843136	0,960796096712	0,961636429637	0,962462019651	0,963273044301
1.8	0,964069680887	0,964852106416	0,965620497554	0,966375030580	0,967115881340	0,967843225204	0,968557237019	0,969258091070	0,969945961038	0,970621019959
1.9	0,971283440184	0,971933393340	0,972571050296	0,973196581122	0,973810155059	0,97411940478	0,975002104851	0,975580814719	0,976148235658	0,976704532249
2.0	0,977249868051	0,977784405570	0,978308306232	0,978821730357	0,979324837133	0,979817784594	0,980300729590	0,980773827772	0,981237233565	0,98169110014
2.1	0,982135579437	0,982570822062	0,982996977352	0,983414193316	0,983822616627	0,984222392608	0,98461366521	0,984996577026	0,985371269224	0,985737881589
2.2	0,986096552486	0,986447418853	0,986790616192	0,987126278561	0,987454538564	0,987775527345	0,988089374585	0,988396208478	0,988696155761	0,988989341675

Valores de la función de distribución acumulativa normal estándar

Z	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
2.3	0,989275889978	0,989555922938	0,989829561331	0,990096924440	0,990358130054	0,990613294465	0,990862532469	0,991105957369	0,991343680974	0,991575813600
2.4	0,991802464075	0,992023739739	0,992239746449	0,992450588583	0,992656369044	0,992857189264	0,993053149211	0,993244347392	0,993430880864	0,993612845235
2.5	0,993790334674	0,993963441919	0,994132258284	0,994296873667	0,994457376556	0,994613854045	0,994766391836	0,994915074251	0,995059984242	0,995201203402
2.6	0,995338811976	0,995472888867	0,995603511651	0,995730756590	0,995854698639	0,995975411457	0,996092967425	0,9962074376523	0,996318891990	0,996427399047
2.7	0,996533026197	0,996635839593	0,996735904184	0,996833283722	0,996928040781	0,997020236764	0,997109931923	0,997197185367	0,997282055077	0,997364597922
2.8	0,997444869669	0,997522925001	0,997598817525	0,997672599793	0,997744323308	0,997814038545	0,997881794959	0,997947641005	0,99801162414	0,998073790867
2.9	0,998134186699	0,998192856219	0,998249843071	0,998305189980	0,998358938765	0,998411130352	0,998461804788	0,998511001254	0,998558758082	0,998605112764
3.0	0,998650101968	0,998693761551	0,998736126572	0,998777231306	0,998817109256	0,998855793169	0,998893315042	0,998929706145	0,998964997025	0,998999217523
3.1	0,999032396786	0,999064563280	0,999095744800	0,999125968484	0,999155260826	0,999300845797	0,999211154305	0,999237805311	0,999263624738	0,999288636031
3.2	0,999312862062	0,999336325138	0,999359047016	0,999381048909	0,999402351502	0,999422974957	0,999442938931	0,999462262578	0,999480964566	0,999499063086
3.3	0,999516575857	0,999533520143	0,999549912759	0,999565770079	0,999581108050	0,999595942198	0,999610287637	0,999624159081	0,999637570851	0,999650536881
3.4	0,999663070734	0,999675185602	0,999686894321	0,999698209375	0,999709142906	0,999719706723	0,999729912306	0,999739770817	0,999749293108	0,999758489726
3.5	0,999767370921	0,999775946653	0,999784226600	0,999792220166	0,999799936484	0,999807384424	0,999814572603	0,999821509386	0,999828202896	0,999834661019
3.6	0,999840891409	0,999846901497	0,999852698492	0,999858289390	0,999863680979	0,999868879845	0,999873892375	0,999878724765	0,999883383023	0,999887872974
3.7	0,999892200266	0,999896370376	0,999900388611	0,999904260114	0,999907989872	0,999911582714	0,999915043321	0,999918376226	0,999921585820	0,999924676357
3.8	0,999927651956	0,999930516604	0,999933274163	0,999935928370	0,999938482844	0,999940941087	0,999943306487	0,999945582323	0,999947771767	0,999949877889
3.9	0,999951903656	0,999953851939	0,999955725515	0,999957527069	0,999959259195	0,999960924403	0,999962525118	0,999964063684	0,999965542365	0,999966963352
4.0	0,999968328758	0,999969640626	0,999970900929	0,999972111573	0,999973274399	0,999974391183	0,999975463642	0,999976493431	0,999977482149	0,999978431340
4.1	0,999979342493	0,999980217044	0,999981056381	0,999981861838	0,999982634708	0,999983376236	0,999984087620	0,999984770018	0,999985424545	0,999986052277
4.2	0,999986654251	0,999987231465	0,999987784884	0,999988315434	0,99998882400	0,999989311474	0,999989778654	0,999990226351	0,999990655334	0,999991066344
4.3	0,999991460094	0,999991837272	0,999992198540	0,999992544532	0,999992875864	0,999993193123	0,999993496877	0,99999378767	0,999994066034	0,999994332467
4.4	0,999995706485	0,999994831469	0,999995064954	0,999995288345	0,999995502056	0,999995706485	0,999995902017	0,99999608902	0,999996267848	0,999996438841
4.5	0,999996602326	0,999996758618	0,999996908018	0,999997050815	0,999997187288	0,999997317704	0,999997442318	0,999997561378	0,999997675120	0,999997783769

ANEXO 3. TABLA DE KOLMOGOROV SMIRNOV LILLIEFORS

Tablas de $D_n = |F_n(x) - F(x)|$ para contrastar la hipótesis de normalidad cuando la media y la varianza poblacionales son estimadas por sus valores muestrales.

Tamaño de la muestra n	Nivel de significancia				
	0.20	**0.15**	**0.10**	**0.05**	**0.01**
4	0.300	0.319	0.352	0.381	0.417
5	0.285	0.299	0.315	0.337	0.405
6	0.265	0.277	0.294	0.319	0.364
7	0.247	0.258	0.276	0.300	0.348
8	0.233	0.244	0.261	0.285	0.331
9	0.223	0.233	0.249	0.271	0.311
10	0.215	0.224	0.239	0.258	0.294
11	0.206	0.217	0.230	0.249	0.284
12	0.199	0.212	0.223	0.242	0.275
13	0.190	0.202	0.214	0.234	0.268
14	0.183	0.194	0.207	0.227	0.261
15	0.177	0.187	0.201	0.220	0.257
16	0.173	0.182	0.195	0.213	0.250
17	0.169	0.177	0.189	0.206	0.245
18	0.166	0.173	0.184	0.200	0.239
19	0.163	0.169	0.179	0.195	0.235
20	0.160	0.166	0.174	0.190	0.231
25	0.149	0.153	0.165	0.180	0.203
30	0.131	0.136	0.144	0.161	0.187
> 30	$\frac{0.736}{\sqrt{n}}$	$\frac{0.768}{\sqrt{n}}$	$\frac{0.805}{\sqrt{n}}$	$\frac{0.886}{\sqrt{n}}$	$\frac{1.031}{\sqrt{n}}$

Tabla tomada del libro; Estadística Modelos y métodos. Daniel Peña Sánchez de Rivera pagina 364. Editorial Alianza. Editorial Textos. 1988

ANEXOS

ANEXO 4. TABLA DE LA DISTRIBUCIÓN F.

Valores cuántiles de la distribución F, para $\alpha = 0.05$

v_1 / v_2	1	2	3	4	5	6	7	8	9	10	12	14	15	16	18	19	20
1	161,45	199,5	215,7073	224,5832	230,1619	233,986	236,7684	238,8827	240,5433	241,8817	243,906	245,364	245,9499	246,4639	247,3232	247,6861	248,0131
2	18,513	19	19,1643	19,2468	19,2964	19,3295	19,3532	19,371	19,3848	19,3959	19,4125	19,4244	19,4291	19,4333	19,4402	19,4431	19,4458
3	10,128	9,5521	9,2766	9,1172	9,0135	8,9406	8,8867	8,8452	8,8123	8,7855	8,7446	8,7149	8,7029	8,6923	8,6745	8,667	8,6602
4	7,7086	6,9443	6,5914	6,3882	6,2561	6,1631	6,0942	6,041	5,9988	5,9644	5,9117	5,8733	5,8578	5,8441	5,8211	5,8114	5,8025
5	6,6079	5,7861	5,4095	5,1922	5,0503	4,9503	4,8759	4,8183	4,7725	4,7351	4,6777	4,6358	4,6188	4,6038	4,5785	4,5678	4,5581
6	5,9874	5,1433	4,7571	4,5337	4,3874	4,2839	4,2067	4,1468	4,099	4,06	3,9999	3,9559	3,9381	3,9223	3,8957	3,8844	3,8742
7	5,5914	4,7374	4,3468	4,1203	3,9715	3,866	3,787	3,7257	3,6767	3,6365	3,5747	3,5292	3,5107	3,4944	3,4669	3,4551	3,4445
8	5,3177	4,459	4,0662	3,8379	3,6875	3,5806	3,5005	3,4381	3,3881	3,3472	3,2839	3,2374	3,2184	3,2016	3,1733	3,1613	3,1503
9	5,1174	4,2565	3,8625	3,6331	3,4817	3,3738	3,2927	3,2296	3,1789	3,1373	3,0729	3,0255	3,0061	2,989	2,96	2,9477	2,9365
10	4,9646	4,1028	3,7083	3,478	3,3258	3,2172	3,1355	3,0717	3,0204	2,9782	2,913	2,8647	2,845	2,8276	2,798	2,7854	2,774
11	4,8443	3,9823	3,5874	3,3567	3,2039	3,0946	3,0123	2,948	2,8962	2,8536	2,7876	2,7386	2,7186	2,7009	2,6709	2,6581	2,6464
12	4,7472	3,8853	3,4903	3,2592	3,1059	2,9961	2,9134	2,8486	2,7964	2,7534	2,6866	2,6371	2,6169	2,5989	2,5684	2,5554	2,5436
13	4,6672	3,8056	3,4105	3,1791	3,0254	2,9153	2,8321	2,7669	2,7144	2,671	2,6037	2,5536	2,5331	2,5149	2,4841	2,4709	2,4589
14	4,6001	3,7389	3,3439	3,1122	2,9582	2,8477	2,7642	2,6987	2,6458	2,6022	2,5342	2,4837	2,463	2,4446	2,4134	2,4	2,3879
15	4,5431	3,6823	3,2874	3,0556	2,9013	2,7905	2,7066	2,6408	2,5876	2,5437	2,4753	2,4244	2,4034	2,3849	2,3533	2,3398	2,3275
16	4,494	3,6337	3,2389	3,0069	2,8524	2,7413	2,6572	2,5911	2,5377	2,4935	2,4247	2,3733	2,3522	2,3335	2,3016	2,288	2,2756
17	4,4513	3,5915	3,1968	2,9647	2,81	2,6987	2,6143	2,548	2,4943	2,4499	2,3807	2,329	2,3077	2,2888	2,2567	2,2429	2,2304
18	4,4139	3,5546	3,1599	2,9277	2,7729	2,6613	2,5767	2,5102	2,4563	2,4117	2,3421	2,29	2,2686	2,2496	2,2172	2,2033	2,1906
19	4,3807	3,5219	3,1274	2,8951	2,7401	2,6283	2,5435	2,4768	2,4227	2,3779	2,308	2,2556	2,2341	2,2149	2,1823	2,1683	2,1555
20	4,3512	3,4928	3,0984	2,8661	2,7109	2,599	2,514	2,4471	2,3928	2,3479	2,2776	2,225	2,2033	2,184	2,1511	2,137	2,1242
21	4,3248	3,4668	3,0725	2,8401	2,6848	2,5727	2,4876	2,4205	2,366	2,321	2,2504	2,1975	2,1757	2,1563	2,1232	2,109	2,096
22	4,3009	3,4434	3,0491	2,8167	2,6613	2,5491	2,4638	2,3965	2,3419	2,2967	2,2258	2,1727	2,1508	2,1313	2,098	2,0837	2,0707
23	4,2793	3,4221	3,028	2,7955	2,64	2,5277	2,4422	2,3748	2,3201	2,2747	2,2036	2,1502	2,1282	2,1086	2,0751	2,0608	2,0476
24	4,2597	3,4028	3,0088	2,7763	2,6207	2,5082	2,4226	2,3551	2,3002	2,2547	2,1834	2,1298	2,1077	2,088	2,0543	2,0399	2,0267
25	4,2417	3,3852	2,9912	2,7587	2,603	2,4904	2,4047	2,3371	2,2821	2,2365	2,1649	2,1111	2,0889	2,0691	2,0353	2,0207	2,0075
26	4,2252	3,369	2,9752	2,7426	2,5868	2,4741	2,3883	2,3205	2,2655	2,2197	2,1479	2,0939	2,0716	2,0518	2,0178	2,0032	1,9898
27	4,21	3,3541	2,9604	2,7278	2,5719	2,4591	2,3732	2,3053	2,2501	2,2043	2,1323	2,0781	2,0558	2,0358	2,0017	1,987	1,9736
28	4,196	3,3404	2,9467	2,7141	2,5581	2,4453	2,3593	2,2913	2,236	2,19	2,1179	2,0635	2,0411	2,021	1,9868	1,972	1,9586
29	4,183	3,3277	2,934	2,7014	2,5454	2,4324	2,3463	2,2783	2,2229	2,1768	2,1045	2,05	2,0275	2,0073	1,973	1,9581	1,9446
30	4,1709	3,3158	2,9223	2,6896	2,5336	2,4205	2,3343	2,2662	2,2107	2,1646	2,0921	2,0374	2,0148	1,9946	1,9601	1,9452	1,9317
40	4,0847	3,2317	2,8387	2,606	2,4495	2,3359	2,249	2,1802	2,124	2,0772	2,0035	1,9476	1,9245	1,9037	1,8682	1,8529	1,8389
50	4,0343	3,1826	2,79	2,5572	2,4004	2,2864	2,1992	2,1299	2,0734	2,0261	1,9515	1,8949	1,8714	1,8503	1,8141	1,7985	1,7841
60	4,0012	3,1504	2,7581	2,5252	2,3683	2,2541	2,1665	2,097	2,0401	1,9926	1,9174	1,8602	1,8364	1,8151	1,7784	1,7625	1,748
80	3,9604	3,1108	2,7188	2,4859	2,3287	2,2142	2,1263	2,0564	1,9991	1,9512	1,8753	1,8174	1,7932	1,7716	1,7342	1,718	1,7032
90	3,9469	3,0977	2,7058	2,4729	2,3157	2,2011	2,1131	2,043	1,9856	1,9376	1,8613	1,8032	1,7789	1,7571	1,7196	1,7033	1,6883
100	3,9361	3,0873	2,6955	2,4626	2,3053	2,1906	2,1025	2,0323	1,9748	1,9267	1,8503	1,7919	1,7675	1,7456	1,7079	1,6915	1,6764
200	3,8884	3,0411	2,6498	2,4168	2,2592	2,1441	2,0556	1,9849	1,9269	1,8783	1,8008	1,7415	1,7166	1,6943	1,6556	1,6388	1,6233
400	3,8648	3,0183	2,6272	2,3942	2,2366	2,1212	2,0325	1,9616	1,9033	1,8544	1,7764	1,7166	1,6914	1,6688	1,6297	1,6126	1,5969
600	3,857	3,0107	2,6198	2,3868	2,229	2,1137	2,0248	1,9538	1,8955	1,8465	1,7683	1,7083	1,6831	1,6604	1,6211	1,6039	1,5881
800	3,8531	3,007	2,616	2,3831	2,2253	2,1099	2,021	1,95	1,8916	1,8425	1,7643	1,7041	1,6789	1,6562	1,6168	1,5995	1,5837
1000	3,8508	3,0047	2,6138	2,3808	2,2231	2,1076	2,0187	1,9476	1,8892	1,8402	1,7618	1,7017	1,6764	1,6536	1,6142	1,5969	1,5811

Valores cuántiles de la distribución F, para $\alpha = 0.05$ (continuación)

v_1 / v_2	1	2	3	4	5	6	7	8	9	10	12	14	15	16	18	19	20
1	248,579	248,825	249,051	249,2601	250,0951	251,1432	251,7742	252,1957	252,497	252,723	252,9	253,0411	253,677	253,995	254,1018	254,1549	254,1868
2	19,4503	19,4523	19,4541	19,4558	19,4624	19,4707	19,4757	19,4791	19,4814	19,4832	19,4846	19,4857	19,4907	19,4932	19,4941	19,4945	19,4947
3	8,6484	8,6432	8,6385	8,6341	8,6166	8,5944	8,581	8,572	8,5656	8,5607	8,5569	8,5539	8,5402	8,5333	8,5311	8,5299	8,5292
4	5,7872	5,7805	5,7744	5,7687	5,7459	5,717	5,6995	5,6877	5,6793	5,673	5,668	5,6641	5,6461	5,6371	5,6341	5,6326	5,6317
5	4,5413	4,5339	4,5272	4,5209	4,4957	4,4638	4,4444	4,4314	4,422	4,415	4,4095	4,4051	4,3851	4,3751	4,3717	4,37	4,369
6	3,8564	3,8486	3,8415	3,8348	3,8082	3,7743	3,7537	3,7398	3,7298	3,7223	3,7164	3,7117	3,6904	3,6797	3,6761	3,6743	3,6732
7	3,426	3,4179	3,4105	3,4036	3,3758	3,3404	3,3189	3,3043	3,2939	3,286	3,2798	3,2749	3,2525	3,2411	3,2374	3,2355	3,2343
8	3,1313	3,1229	3,1152	3,1081	3,0794	3,0428	3,0204	3,0053	2,9944	2,9862	2,9798	2,9747	2,9513	2,9395	2,9355	2,9335	2,9324
9	2,9169	2,9084	2,9005	2,8932	2,8637	2,8259	2,8028	2,7872	2,776	2,7675	2,7609	2,7556	2,7313	2,7191	2,7149	2,7129	2,7116
10	2,7541	2,7453	2,7372	2,7298	2,6996	2,6609	2,6371	2,6211	2,6095	2,6008	2,5939	2,5884	2,5634	2,5507	2,5464	2,5443	2,543
11	2,6261	2,6172	2,609	2,6014	2,5705	2,5309	2,5066	2,4901	2,4782	2,4692	2,4622	2,4566	2,4308	2,4177	2,4133	2,4111	2,4098
12	2,5229	2,5139	2,5055	2,4977	2,4663	2,4259	2,401	2,3842	2,372	2,3628	2,3556	2,3498	2,3233	2,3098	2,3053	2,303	2,3017
13	2,4379	2,4287	2,4202	2,4123	2,3803	2,3392	2,3138	2,2966	2,2841	2,2747	2,2673	2,2614	2,2343	2,2204	2,2158	2,2135	2,2121
14	2,3667	2,3573	2,3487	2,3407	2,3082	2,2664	2,2405	2,2229	2,2102	2,2006	2,1931	2,187	2,1592	2,1451	2,1403	2,1379	2,1365
15	2,306	2,2966	2,2878	2,2797	2,2468	2,2043	2,178	2,1601	2,1472	2,1373	2,1296	2,1234	2,095	2,0806	2,0757	2,0732	2,0718
16	2,2538	2,2443	2,2354	2,2272	2,1938	2,1507	2,124	2,1058	2,0926	2,0826	2,0748	2,0685	2,0395	2,0247	2,0197	2,0172	2,0157
17	2,2084	2,1987	2,1898	2,1815	2,1477	2,104	2,0769	2,0584	2,045	2,0348	2,0268	2,0204	1,9909	1,9758	1,9707	1,9681	1,9666
18	2,1685	2,1587	2,1497	2,1413	2,1071	2,0629	2,0354	2,0166	2,003	1,9927	1,9846	1,978	1,9479	1,9325	1,9273	1,9247	1,9232
19	2,1331	2,1233	2,1141	2,1057	2,0712	2,0264	1,9986	1,9795	1,9657	1,9552	1,947	1,9403	1,9097	1,894	1,8887	1,8861	1,8845
20	2,1016	2,0917	2,0825	2,0739	2,0391	1,9938	1,9656	1,9464	1,9323	1,9217	1,9133	1,9066	1,8755	1,8595	1,8541	1,8514	1,8497
21	2,0733	2,0633	2,054	2,0454	2,0102	1,9645	1,936	1,9165	1,9023	1,8915	1,883	1,8761	1,8446	1,8283	1,8228	1,82	1,8184
22	2,0478	2,0377	2,0283	2,0196	1,9842	1,938	1,9092	1,8894	1,8751	1,8641	1,8555	1,8486	1,8165	1,8	1,7944	1,7916	1,7899
23	2,0246	2,0144	2,005	1,9963	1,9605	1,9139	1,8848	1,8648	1,8503	1,8392	1,8305	1,8234	1,7909	1,7742	1,7685	1,7656	1,7639
24	2,0035	1,9932	1,9838	1,975	1,939	1,892	1,8625	1,8424	1,8276	1,8164	1,8076	1,8005	1,7675	1,7505	1,7447	1,7418	1,7401
25	1,9842	1,9738	1,9643	1,9554	1,9192	1,8718	1,8421	1,8217	1,8069	1,7955	1,7866	1,7794	1,746	1,7287	1,7228	1,7199	1,7181
26	1,9664	1,956	1,9464	1,9375	1,901	1,8533	1,8233	1,8027	1,7877	1,7762	1,7672	1,7599	1,7261	1,7086	1,7026	1,6996	1,6978
27	1,95	1,9396	1,9299	1,921	1,8842	1,8361	1,8059	1,7851	1,77	1,7584	1,7493	1,7419	1,7077	1,6899	1,6839	1,6809	1,679
28	1,9349	1,9244	1,9147	1,9057	1,8687	1,8203	1,7898	1,7689	1,7535	1,7418	1,7326	1,7251	1,6905	1,6726	1,6665	1,6634	1,6615
29	1,9208	1,9103	1,9005	1,8915	1,8543	1,8055	1,7748	1,7537	1,7382	1,7264	1,7171	1,7096	1,6746	1,6564	1,6502	1,6471	1,6452
30	1,9077	1,8972	1,8874	1,8782	1,8409	1,7918	1,7609	1,7396	1,724	1,7121	1,7027	1,695	1,6597	1,6412	1,635	1,6318	1,6299
40	1,8141	1,8031	1,7929	1,7835	1,7444	1,6928	1,66	1,6373	1,6205	1,6077	1,5975	1,5892	1,5505	1,5301	1,5232	1,5196	1,5175
50	1,7588	1,7475	1,7371	1,7273	1,6872	1,6337	1,5995	1,5757	1,558	1,5445	1,5337	1,5249	1,4835	1,4614	1,4538	1,45	1,4477
60	1,7222	1,7108	1,7001	1,6902	1,6491	1,5943	1,559	1,5343	1,516	1,5019	1,4906	1,4814	1,4377	1,4142	1,4061	1,4019	1,3994
80	1,6768	1,6651	1,6542	1,644	1,6017	1,5449	1,5081	1,4821	1,4628	1,4477	1,4357	1,4259	1,3786	1,3526	1,3436	1,339	1,3362
90	1,6618	1,6499	1,6389	1,6286	1,5859	1,5284	1,491	1,4645	1,4448	1,4294	1,4171	1,407	1,3582	1,3313	1,3218	1,317	1,314
100	1,6497	1,6378	1,6267	1,6163	1,5733	1,5151	1,4772	1,4504	1,4303	1,4146	1,402	1,3917	1,3416	1,3138	1,3039	1,2989	1,2958
200	1,5958	1,5834	1,572	1,5612	1,5164	1,4551	1,4146	1,3856	1,3636	1,3463	1,3323	1,3206	1,2626	1,2285	1,216	1,2094	1,2054
400	1,5778	1,5654	1,5446	1,5337	1,4878	1,4247	1,3827	1,3522	1,329	1,3106	1,2956	1,2831	1,2189	1,179	1,1637	1,1555	1,1504
600	1,5689	1,5563	1,5355	1,5245	1,4782	1,4145	1,3719	1,3409	1,3173	1,2984	1,283	1,2701	1,2033	1,1607	1,1439	1,1347	1,1289
800	1,5599	1,5473	1,531	1,5199	1,4735	1,4094	1,3665	1,3353	1,3113	1,2923	1,2766	1,2635	1,1953	1,151	1,1332	1,1234	1,1172
1000	1,5554	1,5428	1,5282	1,5171	1,4706	1,4063	1,3632	1,3318	1,3078	1,2885	1,2728	1,2596	1,1903	1,145	1,1265	1,1163	1,1097

Valores cuántiles de la distribución F, para $\alpha = 0.025$

v_1 / v_2	1	2	3	4	5	6	7	8	9	10	12	14	15	16	18	19	20
1	647,78	799,50	864,16	899,58	921,847	937,11	948,21	956,65	963,28	968,62	976,70	982,52	984,86	986,918	990,34	991,79	993,10
2	38,506	39,000	39,165	39,248	39,298	39,33	39,355	39,373	39,387	39,398	39,4146	39,426	39,4313	39,435	39,442	39,445	39,447
3	17,4434	16,0441	15,439	15,1010	14,8848	14,734	14,6244	14,5399	14,4731	14,4189	14,3366	14,2768	14,2527	14,2315	14,1960	14,1810	14,1674
4	12,2179	10,6491	9,9792	9,6045	9,3645	9,1973	9,0741	8,9796	8,9047	8,8439	8,7512	8,6838	8,6565	8,6326	8,5924	8,5753	8,5599
5	10,0070	8,4336	7,7636	7,3879	7,1464	6,9777	6,8531	6,7572	6,6811	6,6192	6,5245	6,4556	6,4277	6,4032	6,3619	6,3444	6,3286
6	8,8131	7,2599	6,5988	6,2272	5,9876	5,8198	5,6955	5,5996	5,5234	5,4613	5,3662	5,2968	5,2687	5,2439	5,2021	5,1844	5,1684
7	8,0727	6,5415	5,8898	5,5226	5,2852	5,1186	4,9949	4,8993	4,8232	4,7611	4,6658	4,5961	4,5678	4,5428	4,5008	4,4829	4,4667
8	7,5709	6,0595	5,4160	5,0526	4,8173	4,6517	4,5286	4,4333	4,3572	4,2951	4,1997	4,1297	4,1012	4,0761	4,0338	4,0158	3,9995
9	7,2093	5,7147	5,0781	4,7181	4,4844	4,3197	4,1970	4,1020	4,0260	3,9639	3,8682	3,7980	3,7694	3,7441	3,7015	3,6833	3,6669
10	6,9367	5,4564	4,8256	4,4683	4,2361	4,0721	3,9498	3,8549	3,7790	3,7168	3,6209	3,5504	3,5217	3,4963	3,4534	3,4351	3,4185
11	6,7241	5,2559	4,6300	4,2751	4,0440	3,8807	3,7586	3,6638	3,5879	3,5257	3,4296	3,3588	3,3299	3,3044	3,2612	3,2428	3,2261
12	6,5538	5,0959	4,4742	4,1212	3,8911	3,7283	3,6065	3,5118	3,4358	3,3736	3,2773	3,2062	3,1772	3,1515	3,1081	3,0896	3,0728
13	6,4143	4,9653	4,3472	3,9959	3,7667	3,6043	3,4827	3,3880	3,3120	3,2497	3,1532	3,0819	3,0527	3,0269	2,9832	2,9646	2,9477
14	6,2979	4,8567	4,2417	3,8919	3,6634	3,5014	3,3799	3,2853	3,2093	3,1469	3,0502	2,9786	2,9493	2,9234	2,8795	2,8607	2,8437
15	6,1995	4,7650	4,1528	3,8043	3,5764	3,4147	3,2934	3,1987	3,1227	3,0602	2,9633	2,8915	2,8621	2,8360	2,7919	2,7730	2,7559
16	6,1151	4,6867	4,0768	3,7294	3,5021	3,3406	3,2194	3,1248	3,0488	2,9862	2,8890	2,8170	2,7875	2,7614	2,7170	2,6980	2,6808
17	6,0420	4,6189	4,0112	3,6648	3,4379	3,2767	3,1556	3,0610	2,9849	2,9222	2,8249	2,7526	2,7230	2,6968	2,6522	2,6331	2,6158
18	5,9781	4,5597	3,9539	3,6083	3,3820	3,2209	3,0999	3,0053	2,9291	2,8664	2,7689	2,6964	2,6667	2,6404	2,5956	2,5764	2,5590
19	5,9216	4,5075	3,9034	3,5587	3,3327	3,1718	3,0509	2,9563	2,8801	2,8172	2,7196	2,6469	2,6171	2,5907	2,5457	2,5265	2,5089
20	5,8715	4,4613	3,8587	3,5147	3,2891	3,1283	3,0074	2,9128	2,8365	2,7737	2,6758	2,6030	2,5731	2,5465	2,5014	2,4821	2,4645
21	5,8266	4,4199	3,8188	3,4754	3,2501	3,0895	2,9686	2,8740	2,7977	2,7348	2,6368	2,5638	2,5338	2,5071	2,4618	2,4424	2,4247
22	5,7863	4,3828	3,7829	3,4401	3,2151	3,0546	2,9338	2,8392	2,7628	2,6998	2,6017	2,5285	2,4984	2,4717	2,4262	2,4067	2,3890
23	5,7498	4,3492	3,7505	3,4083	3,1835	3,0232	2,9023	2,8077	2,7313	2,6682	2,5699	2,4966	2,4665	2,4396	2,3940	2,3745	2,3567
24	5,7166	4,3187	3,7211	3,3794	3,1548	2,9946	2,8738	2,7791	2,7027	2,6396	2,5411	2,4677	2,4374	2,4105	2,3648	2,3452	2,3273
25	5,6864	4,2909	3,6943	3,3530	3,1287	2,9685	2,8478	2,7531	2,6766	2,6135	2,5149	2,4413	2,4110	2,3840	2,3381	2,3184	2,3005
26	5,6586	4,2655	3,6697	3,3289	3,1048	2,9447	2,8240	2,7293	2,6528	2,5896	2,4908	2,4171	2,3867	2,3597	2,3137	2,2939	2,2759
27	5,6331	4,2421	3,6472	3,3067	3,0828	2,9228	2,8021	2,7074	2,6309	2,5676	2,4688	2,3949	2,3644	2,3373	2,2912	2,2713	2,2533
28	5,6096	4,2205	3,6264	3,2863	3,0626	2,9027	2,7820	2,6872	2,6106	2,5473	2,4484	2,3743	2,3438	2,3167	2,2704	2,2505	2,2324
29	5,5878	4,2006	3,6072	3,2674	3,0438	2,8840	2,7633	2,6686	2,5919	2,5286	2,4295	2,3554	2,3248	2,2976	2,2512	2,2313	2,2131
30	5,5675	4,1821	3,5894	3,2499	3,0265	2,8667	2,7460	2,6513	2,5746	2,5112	2,4120	2,3378	2,3072	2,2799	2,2334	2,2134	2,1952
40	5,4239	4,0510	3,4633	3,1261	2,9037	2,7444	2,6238	2,5289	2,4519	2,3882	2,2882	2,2130	2,1819	2,1542	2,1068	2,0864	2,0677
50	5,3403	3,9749	3,3902	3,0544	2,8327	2,6736	2,5530	2,4579	2,3808	2,3168	2,2162	2,1404	2,1090	2,0810	2,0330	2,0122	1,9933
60	5,2856	3,9253	3,3425	3,0077	2,7863	2,6274	2,5068	2,4117	2,3344	2,2702	2,1692	2,0929	2,0613	2,0330	1,9846	1,9636	1,9445
80	5,2184	3,8643	3,2841	2,9504	2,7295	2,5708	2,4502	2,3549	2,2775	2,2130	2,1115	2,0346	2,0026	1,9741	1,9250	1,9037	1,8843
90	5,1962	3,8443	3,2649	2,9315	2,7109	2,5522	2,4316	2,3363	2,2588	2,1942	2,0925	2,0154	1,9833	1,9546	1,9053	1,8840	1,8644
100	5,1786	3,8284	3,2496	2,9166	2,6961	2,5374	2,4168	2,3215	2,2439	2,1793	2,0773	2,0001	1,9679	1,9391	1,8897	1,8682	1,8486
200	5,1004	3,7578	3,1820	2,8503	2,6304	2,4720	2,3513	2,2558	2,1780	2,1130	2,0103	1,9322	1,8996	1,8704	1,8200	1,7981	1,7780
400	5,0619	3,7231	3,1489	2,8179	2,5983	2,4399	2,3192	2,2236	2,1456	2,0805	1,9773	1,8987	1,8659	1,8364	1,7856	1,7635	1,7431
600	5,0492	3,7117	3,1379	2,8071	2,5876	2,4293	2,3086	2,2130	2,1349	2,0697	1,9664	1,8877	1,8548	1,8252	1,7742	1,7520	1,7316
800	5,0429	3,7059	3,1324	2,8018	2,5823	2,4240	2,3033	2,2077	2,1296	2,0643	1,9610	1,8821	1,8492	1,8196	1,7685	1,7462	1,7258
1000	5,0391	3,7025	3,1292	2,7986	2,5792	2,4208	2,3002	2,2045	2,1264	2,0611	1,9577	1,8788	1,8459	1,8162	1,7651	1,7428	1,7223

Valores cuántiles de la distribución F, para $\alpha = 0.025$ (continuación)

v_1 / v_2	22	23	24	25	30	40	50	60	70	80	90	100	200	400	600	800	1000
1	995.362	996.346	997.249	998.080	1.001,414	1005.57	1008.117	1009.80	1011.004	1011907	1012.611	1013.174	1015.713	1016.985	1017.409	1017.621	1017.74
2	39,452	39,454	39,456	39,457	39,4646	39,4729	39,477	39,4812	39,483	39,485	39,486	39,487	39,492	39,4954	39,4962	39,496	39,496
3	14,143	14,133	14,1241	14,1155	14,0805	14,0365	14,0099	13,9921	13,9793	13,969	13,962	13,9563	13,9292	13,9157	13,9111	13,9089	13,907
4	8,5332	8,5216	8,5109	8,5010	8,4613	8,4111	8,3808	8,3604	8,3458	8,3349	8,3263	8,3195	8,2885	8,2729	8,2677	8,2651	8,2636
5	6,3011	6,2891	6,2780	6,2679	6,2269	6,1750	6,1436	6,1225	6,1074	6,0960	6,0871	6,0800	6,0478	6,0316	6,0262	6,0235	6,0218
6	5,1406	5,1284	5,1172	5,1069	5,0652	5,0125	4,9804	4,9589	4,9434	4,9318	4,9227	4,9154	4,8824	4,8658	4,8602	4,8575	4,8558
7	4,4386	4,4263	4,4150	4,4045	4,3624	4,3089	4,2763	4,2544	4,2386	4,2268	4,2175	4,2101	4,1764	4,1594	4,1537	4,1509	4,1492
8	3,9711	3,9587	3,9472	3,9367	3,8940	3,8398	3,8067	3,7844	3,7684	3,7563	3,7469	3,7393	3,7050	3,6876	3,6818	3,6789	3,6772
9	3,6383	3,6257	3,6142	3,6035	3,5604	3,5055	3,4719	3,4493	3,4330	3,4207	3,4111	3,4034	3,3684	3,3507	3,3448	3,3418	3,3400
10	3,3897	3,3770	3,3654	3,3546	3,3110	3,2554	3,2214	3,1984	3,1818	3,1694	3,1596	3,1517	3,1161	3,0980	3,0920	3,0889	3,0871
11	3,1970	3,1843	3,1725	3,1616	3,1176	3,0613	3,0268	3,0035	2,9867	2,9740	2,9641	2,9561	2,9198	2,9014	2,8952	2,8921	2,8902
12	3,0434	3,0306	3,0187	3,0077	2,9633	2,9063	2,8714	2,8478	2,8307	2,8178	2,8077	2,7996	2,7626	2,7439	2,7376	2,7344	2,7325
13	2,9181	2,9052	2,8932	2,8821	2,8372	2,7797	2,7443	2,7204	2,7030	2,6900	2,6797	2,6715	2,6339	2,6148	2,6084	2,6051	2,6032
14	2,8139	2,8009	2,7888	2,7777	2,7324	2,6742	2,6384	2,6142	2,5966	2,5833	2,5729	2,5646	2,5264	2,5069	2,5004	2,4971	2,4951
15	2,7260	2,7128	2,7006	2,6894	2,6437	2,5850	2,5488	2,5242	2,5064	2,4930	2,4824	2,4739	2,4352	2,4154	2,4087	2,4054	2,4034
16	2,6507	2,6374	2,6252	2,6138	2,5678	2,5085	2,4719	2,4471	2,4291	2,4154	2,4047	2,3961	2,3567	2,3367	2,3299	2,3265	2,3245
17	2,5855	2,5721	2,5598	2,5484	2,5020	2,4422	2,4053	2,3801	2,3619	2,3481	2,3372	2,3285	2,2886	2,2682	2,2613	2,2578	2,2558
18	2,5285	2,5151	2,5027	2,4912	2,4445	2,3842	2,3468	2,3214	2,3030	2,2890	2,2780	2,2692	2,2287	2,2080	2,2010	2,1975	2,1954
19	2,4783	2,4648	2,4523	2,4408	2,3937	2,3329	2,2952	2,2696	2,2509	2,2368	2,2257	2,2167	2,1757	2,1547	2,1476	2,1440	2,1419
20	2,4337	2,4201	2,4076	2,3959	2,3486	2,2873	2,2493	2,2234	2,2045	2,1902	2,1790	2,1699	2,1284	2,1071	2,0999	2,0962	2,0941
21	2,3938	2,3801	2,3675	2,3558	2,3082	2,2465	2,2081	2,1819	2,1629	2,1485	2,1371	2,1280	2,0859	2,0643	2,0570	2,0533	2,0511
22	2,3579	2,3442	2,3315	2,3198	2,2718	2,2097	2,1710	2,1446	2,1254	2,1108	2,0993	2,0901	2,0475	2,0256	2,0182	2,0145	2,0122
23	2,3254	2,3116	2,2989	2,2871	2,2389	2,1763	2,1374	2,1107	2,0913	2,0766	2,0650	2,0557	2,0126	1,9904	1,9829	1,9791	1,9769
24	2,2959	2,2821	2,2693	2,2574	2,2090	2,1460	2,1067	2,0799	2,0603	2,0454	2,0337	2,0243	1,9807	1,9583	1,9507	1,9468	1,9445
25	2,2690	2,2551	2,2422	2,2303	2,1816	2,1183	2,0787	2,0516	2,0319	2,0169	2,0051	1,9955	1,9515	1,9288	1,9211	1,9172	1,9149
26	2,2443	2,2303	2,2174	2,2054	2,1565	2,0928	2,0530	2,0257	2,0058	1,9907	1,9787	1,9691	1,9246	1,9016	1,8938	1,8899	1,8876
27	2,2216	2,2076	2,1946	2,1826	2,1334	2,0693	2,0293	2,0018	1,9817	1,9665	1,9544	1,9447	1,8998	1,8765	1,8687	1,8647	1,8623
28	2,2006	2,1865	2,1735	2,1615	2,1121	2,0477	2,0073	1,9797	1,9595	1,9441	1,9319	1,9221	1,8767	1,8532	1,8453	1,8413	1,8389
29	2,1812	2,1671	2,1540	2,1419	2,0923	2,0276	1,9870	1,9591	1,9388	1,9232	1,9110	1,9011	1,8553	1,8316	1,8235	1,8195	1,8170
30	2,1631	2,1490	2,1359	2,1237	2,0739	2,0089	1,9681	1,9400	1,9195	1,9039	1,8915	1,8816	1,8354	1,8114	1,8032	1,7991	1,7967
40	2,0349	2,0203	2,0069	1,9943	1,9429	1,8752	1,8324	1,8028	1,7810	1,7644	1,7512	1,7405	1,6906	1,6643	1,6554	1,6509	1,6481
50	1,9599	1,9451	1,9313	1,9186	1,8659	1,7963	1,7520	1,7211	1,6984	1,6810	1,6671	1,6558	1,6029	1,5747	1,5651	1,5602	1,5572
60	1,9106	1,8956	1,8817	1,8687	1,8152	1,7440	1,6985	1,6668	1,6433	1,6252	1,6108	1,5990	1,5435	1,5136	1,5034	1,4981	1,4950
80	1,8499	1,8346	1,8204	1,8071	1,7523	1,6790	1,6318	1,5987	1,5740	1,5549	1,5396	1,5271	1,4674	1,4348	1,4234	1,4176	1,4141
90	1,8298	1,8144	1,8001	1,7867	1,7315	1,6574	1,6095	1,5758	1,5507	1,5312	1,5156	1,5028	1,4414	1,4076	1,3957	1,3897	1,3860
100	1,8138	1,7983	1,7839	1,7705	1,7148	1,6401	1,5917	1,5575	1,5320	1,5122	1,4963	1,4833	1,4203	1,3854	1,3731	1,3668	1,3630
200	1,7424	1,7265	1,7117	1,6978	1,6403	1,5621	1,5108	1,4742	1,4465	1,4248	1,4072	1,3927	1,3204	1,2782	1,2628	1,2548	1,2498
400	1,7070	1,6909	1,6758	1,6618	1,6031	1,5230	1,4699	1,4317	1,4026	1,3796	1,3609	1,3453	1,2658	1,2169	1,1981	1,1881	1,1819
600	1,6953	1,6791	1,6639	1,6498	1,5907	1,5099	1,4561	1,4173	1,3877	1,3642	1,3450	1,3290	1,2465	1,1942	1,1737	1,1626	1,1555
800	1,6894	1,6731	1,6580	1,6438	1,5845	1,5033	1,4492	1,4101	1,3802	1,3565	1,3370	1,3208	1,2365	1,1823	1,1607	1,1488	1,1412
1000	1,6859	1,6696	1,6544	1,6402	1,5808	1,4993	1,4451	1,4058	1,3757	1,3518	1,3322	1,3158	1,2304	1,1750	1,1525	1,1401	1,1320

ANEXOS

ANEXO 5. COEFICIENTES PARA LAS GRAFICAS DE CONTROL

Número de observaciones de la muestra, n	Grafico de promedios			Gráfico de desviación estándar					Gráfico de rangos						
	Coeficientes para los limites de control			Coeficientes para:					Coeficientes para el límite central		Coeficientes para los límites de control				
				Límite central	Límites de control										
	A	A_2	A_3	c_4	B_3	B_4	B_5	B_6	d_2	$1/d_2$	d_3	D_1	D_2	D_3	D_4
1	2.121	1.880	2.659	0.7979	0	3.267	0	2.606	1.128	0.8865	0.853	0	3.686	0	3.267
2	1.732	1.023	1.954	0.8862	0	2.568	0	2.276	1.6929	0.5907	0.888	0	4.358	0	2.575
3	1.500	0.729	1.628	0.9213	0	2.266	0	2.088	2.0588	0.4857	0.880	0	4.698	0	2.282
4	1.342	0.577	1.427	0.9400	0	2.089	0	1.964	2.3261	0.4299	0.864	0	4.918	0	2.115
5	1.225	0.483	1.287	0.9515	0.030	1.970	0.029	1.874	2.5342	0.3946	0.848	0	5.078	0	2.004
6	1.134	0.419	1.182	0.9594	0.118	1.882	0.113	1.806	2.7041	0.3698	0.833	0.205	5.203	0.076	1.924
7	1.061	0.373	1.099	0.9650	0.185	1.815	0.179	1.751	2.8473	0.3512	0.820	0.387	5.307	0.136	1.864
8	1.000	0.337	1.032	0.9693	0.239	1.761	0.232	1.707	2.9700	0.3367	0.808	0.546	5.394	0.184	1.816
9	0.949	0.308	0.975	0.9727	0.284	1.716	0.276	1.669	3.0778	0.3249	0.797	0.687	5.469	0.223	1.777

ANEXO 6. DISTRIBUCIÓN JI-CUADRADA

ν	0,005	0,01	0,025	0,05	0,1	0,25	0,5	0,75	0,9	0,95	0,975	0,99	0,995	0,999
1	0,0000	0,0002	0,0010	0,0039	0,0158	0,1015	0,4549	1,3233	2,7055	3,8415	5,0239	6,6349	7,8794	10,8276
2	0,0100	0,0201	0,0506	0,1026	0,2107	0,5754	1,3863	2,7726	4,6052	5,9915	7,3778	9,2103	10,5966	13,8155
3	0,0717	0,1148	0,2158	0,3518	0,5844	1,2125	2,3660	4,1083	6,2514	7,8147	9,3484	11,3449	12,8382	16,2662
4	0,2070	0,2971	0,4844	0,7107	1,0636	1,9226	3,3567	5,3853	7,7794	9,4877	11,1433	13,2767	14,8603	18,4668
5	0,4117	0,5543	0,8312	1,1455	1,6103	2,6746	4,3515	6,6257	9,2364	11,0705	12,8325	15,0863	16,7496	20,5150
6	0,6757	0,8721	1,2373	1,6354	2,2041	3,4546	5,3481	7,8408	10,6446	12,5916	14,4494	16,8119	18,5476	22,4577
7	0,9893	1,2390	1,6899	2,1673	2,8331	4,2549	6,3458	9,0371	12,0170	14,0671	16,0128	18,4753	20,2777	24,3219
8	1,3444	1,6465	2,1797	2,7326	3,4895	5,0706	7,3441	10,2189	13,3616	15,5073	17,5345	20,0902	21,9550	26,1245
9	1,7349	2,0879	2,7004	3,3251	4,1682	5,8988	8,3428	11,3888	14,6837	16,9190	19,0228	21,6660	23,5894	27,8772
10	2,1559	2,5582	3,2470	3,9403	4,8652	6,7372	9,3418	12,5489	15,9872	18,3070	20,4832	23,2093	25,1882	29,5883
11	2,6032	3,0535	3,8157	4,5748	5,5778	7,5841	10,3410	13,7007	17,2750	19,6751	21,9200	24,7250	26,7568	31,2641
12	3,0738	3,5706	4,4038	5,2260	6,3038	8,4384	11,3403	14,8454	18,5493	21,0261	23,3367	26,2170	28,2995	32,9095
13	3,5650	4,1069	5,0088	5,8919	7,0415	9,2991	12,3398	15,9839	19,8119	22,3620	24,7356	27,6882	29,8195	34,5282
14	4,0747	4,6604	5,6287	6,5706	7,7895	10,1653	13,3393	17,1169	21,0641	23,6848	26,1189	29,1412	31,3193	36,1233
15	4,6009	5,2293	6,2621	7,2609	8,5468	11,0365	14,3389	18,2451	22,3071	24,9958	27,4884	30,5779	32,8013	37,6973
16	5,1422	5,8122	6,9077	7,9616	9,3122	11,9122	15,3385	19,3689	23,5418	26,2962	28,8454	31,9999	34,2672	39,2524
17	5,6972	6,4078	7,5642	8,6718	10,0852	12,7919	16,3382	20,4887	24,7690	27,5871	30,1910	33,4087	35,7185	40,7902
18	6,2648	7,0149	8,2307	9,3905	10,8649	13,6753	17,3379	21,6049	25,9894	28,8693	31,5264	34,8053	37,1565	42,3124
19	6,8440	7,6327	8,9065	10,1170	11,6509	14,5620	18,3377	22,7178	27,2036	30,1435	32,8523	36,1909	38,5823	43,8202
20	7,4338	8,2604	9,5908	10,8508	12,4426	15,4518	19,3374	23,8277	28,4120	31,4104	34,1696	37,5662	39,9968	45,3147
21	8,0337	8,8972	10,2829	11,5913	13,2396	16,3444	20,3372	24,9348	29,6151	32,6706	35,4789	38,9322	41,4011	46,7970
22	8,6427	9,5425	10,9823	12,3380	14,0415	17,2396	21,3370	26,0393	30,8133	33,9244	36,7807	40,2894	42,7957	48,2679
23	9,2604	10,1957	11,6886	13,0905	14,8480	18,1373	22,3369	27,1413	32,0069	35,1725	38,0756	41,6384	44,1813	49,7282
24	9,8862	10,8564	12,4012	13,8484	15,6587	19,0373	23,3367	28,2412	33,1962	36,4150	39,3641	42,9798	45,5585	51,1786
25	10,5197	11,5240	13,1197	14,6114	16,4734	19,9393	24,3366	29,3389	34,3816	37,6525	40,6465	44,3141	46,9279	52,6197
26	11,1602	12,1981	13,8439	15,3792	17,2919	20,8434	25,3365	30,4346	35,5632	38,8851	41,9232	45,6417	48,2899	54,0520
27	11,8076	12,8785	14,5734	16,1514	18,1139	21,7494	26,3363	31,5284	36,7412	40,1133	43,1945	46,9629	49,6449	55,4760
28	12,4613	13,5647	15,3079	16,9279	18,9392	22,6572	27,3362	32,6205	37,9159	41,3371	44,4608	48,2782	50,9934	56,8923
29	13,1211	14,2565	16,0471	17,7084	19,7677	23,5666	28,3361	33,7109	39,0875	42,5570	45,7223	49,5879	52,3356	58,3012

ANEXO 6. DISTRIBUCIÓN JI-CUADRADA (Continuación)

ν	0,005	0,01	0,025	0,05	0,1	0,25	0,5	0,75	0,9	0,95	0,975	0,99	0,995	0,999
30	13,7867	14,9535	16,7908	18,4927	20,5992	24,4776	29,3360	34,7997	40,2560	43,7730	46,9792	50,8922	53,6720	59,7031
35	17,1918	18,5089	20,5694	22,4650	24,7967	29,0540	34,3356	40,2228	46,0588	49,8018	53,2033	57,3421	60,2748	66,6188
40	20,7065	22,1643	24,4330	26,5093	29,0505	33,6603	39,3353	45,6160	51,8051	55,7585	59,3417	63,6907	66,7660	73,4020
50	27,9907	29,7067	32,3574	34,7643	37,6886	42,9421	49,3349	56,3336	63,1671	67,5048	71,4202	76,1539	79,4900	86,6608
60	35,5345	37,4849	40,4817	43,1880	46,4589	52,2938	59,3347	66,9815	74,3970	79,0819	83,2977	88,3794	91,9517	99,6072
80	51,1719	53,5401	57,1532	60,3915	64,2778	71,1445	79,3343	88,1303	96,5782	101,8795	106,6286	112,3288	116,3211	124,8392
90	59,1963	61,7541	65,6466	69,1260	73,2911	80,6247	89,3342	98,6499	107,5650	113,1453	118,1359	124,1163	128,2989	137,2084
100	67,3276	70,0649	74,2219	77,9295	82,3581	90,1332	99,3341	109,1412	118,4980	124,3421	129,5612	135,8067	140,1695	149,4493
200	152,2410	156,4320	162,7280	168,2786	174,8353	186,1717	199,3337	213,1022	226,0210	233,9943	241,0579	249,4451	255,2642	267,5405
300	240,6634	245,9725	253,9123	260,8781	269,0679	283,1353	299,3336	316,1384	331,7885	341,3951	349,8745	359,9064	366,8444	381,4252
400	330,9028	337,1553	346,4818	354,6410	364,2074	380,5767	399,3336	418,6969	436,6490	447,6325	457,3055	468,7245	476,6064	493,1318
500	422,3034	429,3875	439,9360	449,1468	459,9261	478,3230	499,3335	520,9505	540,9303	553,1268	563,8515	576,4928	585,2066	603,4460
600	514,5289	522,3651	534,0186	544,1801	556,0560	576,2859	599,3335	622,9876	644,8004	658,0936	669,7692	683,5156	692,9816	712,7712
700	607,3795	615,9075	628,5772	639,6131	652,4974	674,4128	699,3335	724,8607	748,3591	762,6607	775,2107	789,9735	800,1314	821,3468
800	700,7250	709,8969	723,5126	735,3624	749,1853	772,6694		826,6040	851,6712	866,9114	880,2753	895,9843	906,7862	929,3289
900	794,4750	804,2518	818,7560	831,3702	846,0746	871,0321		928,2413	954,7819	970,9036	985,0320	1.001,6296	1.013,0364	1.036,8260
1000	888,5635	898,9125		927,5944	943,1326				1.057,7239	1.074,6794	1.089,5309	1.106,9690	1.118,9481	1.143,9171

ÍNDICE ANÁLITICO