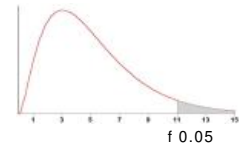


Tabla D.9: VALORES CRÍTICOS DE LA DISTRIBUCIÓN F (0,05)

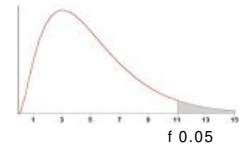


área a la derecha del valor crítico = 0,05

f 0.05

g.d.l.	Grados de libertad del Numerador															g.d.l.	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15		
Grados de libertad del Denominador	1	161,4	199,5	215,7	224,6	230,2	234,0	236,8	238,9	240,5	241,9	243,0	243,9	244,7	245,4	245,9	1
	2	18,513	19,000	19,164	19,247	19,296	19,330	19,353	19,371	19,385	19,396	19,405	19,413	19,419	19,424	19,429	2
	3	10,128	9,552	9,277	9,117	9,013	8,941	8,887	8,845	8,812	8,786	8,763	8,745	8,729	8,715	8,703	3
	4	7,709	6,944	6,591	6,388	6,256	6,163	6,094	6,041	5,999	5,964	5,936	5,912	5,891	5,873	5,858	4
	5	6,608	5,786	5,409	5,192	5,050	4,950	4,876	4,818	4,772	4,735	4,704	4,678	4,655	4,636	4,619	5
	6	5,987	5,143	4,757	4,534	4,387	4,284	4,207	4,147	4,099	4,060	4,027	4,000	3,976	3,956	3,938	6
	7	5,591	4,737	4,347	4,120	3,972	3,866	3,787	3,726	3,677	3,637	3,603	3,575	3,550	3,529	3,511	7
	8	5,318	4,459	4,066	3,838	3,687	3,581	3,500	3,438	3,388	3,347	3,313	3,284	3,259	3,237	3,218	8
	9	5,117	4,256	3,863	3,633	3,482	3,374	3,293	3,230	3,179	3,137	3,102	3,073	3,048	3,025	3,006	9
	10	4,965	4,103	3,708	3,478	3,326	3,217	3,135	3,072	3,020	2,978	2,943	2,913	2,887	2,865	2,845	10
	11	4,844	3,982	3,587	3,357	3,204	3,095	3,012	2,948	2,896	2,854	2,818	2,788	2,761	2,739	2,719	11
	12	4,747	3,885	3,490	3,259	3,106	2,996	2,913	2,849	2,796	2,753	2,717	2,687	2,660	2,637	2,617	12
	13	4,667	3,806	3,411	3,179	3,025	2,915	2,832	2,767	2,714	2,671	2,635	2,604	2,577	2,554	2,533	13
	14	4,600	3,739	3,344	3,112	2,958	2,848	2,764	2,699	2,646	2,602	2,565	2,534	2,507	2,484	2,463	14
	15	4,543	3,682	3,287	3,056	2,901	2,790	2,707	2,641	2,588	2,544	2,507	2,475	2,448	2,424	2,403	15
	16	4,494	3,634	3,239	3,007	2,852	2,741	2,657	2,591	2,538	2,494	2,456	2,425	2,397	2,373	2,352	16
	17	4,451	3,592	3,197	2,965	2,810	2,699	2,614	2,548	2,494	2,450	2,413	2,381	2,353	2,329	2,308	17
	18	4,414	3,555	3,160	2,928	2,773	2,661	2,577	2,510	2,456	2,412	2,374	2,342	2,314	2,290	2,269	18
	19	4,381	3,522	3,127	2,895	2,740	2,628	2,544	2,477	2,423	2,378	2,340	2,308	2,280	2,256	2,234	19
	20	4,351	3,493	3,098	2,866	2,711	2,599	2,514	2,447	2,393	2,348	2,310	2,278	2,250	2,225	2,203	20
	21	4,325	3,467	3,072	2,840	2,685	2,573	2,488	2,420	2,366	2,321	2,283	2,250	2,222	2,197	2,176	21
	22	4,301	3,443	3,048	2,817	2,661	2,549	2,464	2,397	2,342	2,297	2,259	2,226	2,198	2,173	2,151	22
	23	4,279	3,422	3,027	2,796	2,640	2,528	2,442	2,375	2,320	2,275	2,236	2,204	2,175	2,150	2,128	23
	24	4,260	3,403	3,008	2,776	2,621	2,508	2,423	2,355	2,300	2,255	2,216	2,183	2,155	2,130	2,108	24
	25	4,242	3,385	2,991	2,759	2,603	2,490	2,405	2,337	2,282	2,236	2,198	2,165	2,136	2,111	2,089	25
	26	4,225	3,369	2,975	2,743	2,587	2,474	2,388	2,321	2,265	2,220	2,181	2,148	2,119	2,094	2,072	26
	27	4,210	3,354	2,960	2,728	2,572	2,459	2,373	2,305	2,250	2,204	2,166	2,132	2,103	2,078	2,056	27
	28	4,196	3,340	2,947	2,714	2,558	2,445	2,359	2,291	2,236	2,190	2,151	2,118	2,089	2,064	2,041	28
	29	4,183	3,328	2,934	2,701	2,545	2,432	2,346	2,278	2,223	2,177	2,138	2,104	2,075	2,050	2,027	29
	30	4,171	3,316	2,922	2,690	2,534	2,421	2,334	2,266	2,211	2,165	2,126	2,092	2,063	2,037	2,015	30
	31	4,160	3,305	2,911	2,679	2,523	2,409	2,323	2,255	2,199	2,153	2,114	2,080	2,051	2,026	2,003	31
	32	4,149	3,295	2,901	2,668	2,512	2,399	2,313	2,244	2,189	2,142	2,103	2,070	2,040	2,015	1,992	32
	33	4,139	3,285	2,892	2,659	2,503	2,389	2,303	2,235	2,179	2,133	2,093	2,060	2,030	2,004	1,982	33
	34	4,130	3,276	2,883	2,650	2,494	2,380	2,294	2,225	2,170	2,123	2,084	2,050	2,021	1,995	1,972	34
	35	4,121	3,267	2,874	2,641	2,485	2,372	2,285	2,217	2,161	2,114	2,075	2,041	2,012	1,986	1,963	35
	40	4,085	3,232	2,839	2,606	2,449	2,336	2,249	2,180	2,124	2,077	2,038	2,003	1,974	1,948	1,924	40
	60	4,001	3,150	2,758	2,525	2,368	2,254	2,167	2,097	2,040	1,993	1,952	1,917	1,887	1,860	1,836	60
	80	3,960	3,111	2,719	2,486	2,329	2,214	2,126	2,056	1,999	1,951	1,910	1,875	1,845	1,817	1,793	80
	90	3,947	3,098	2,706	2,473	2,316	2,201	2,113	2,043	1,986	1,938	1,897	1,861	1,830	1,803	1,779	90
	100	3,936	3,087	2,696	2,463	2,305	2,191	2,103	2,032	1,975	1,927	1,886	1,850	1,819	1,792	1,768	100
	120	3,920	3,072	2,680	2,447	2,290	2,175	2,087	2,016	1,959	1,910	1,869	1,834	1,803	1,775	1,750	120
	inf.	3,841	2,996	2,605	2,372	2,214	2,099	2,010	1,938	1,880	1,831	1,789	1,752	1,720	1,692	1,666	inf.

Tabla D.9: VALORES CRÍTICOS DE LA DISTRIBUCIÓN F (0,05)

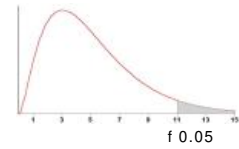


área a la derecha del valor crítico = 0,05

f 0.05

	g.d.l.	Grados de libertad del Numerador															g.d.l.
		16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Grados de libertad del Denominador	1	246,5	246,9	247,3	247,7	248,0	248,3	248,6	248,8	249,1	249,3	249,5	249,6	249,8	250,0	250,1	1
	2	19,433	19,437	19,440	19,443	19,446	19,448	19,450	19,452	19,454	19,456	19,457	19,459	19,460	19,461	19,462	2
	3	8,692	8,683	8,675	8,667	8,660	8,654	8,648	8,643	8,639	8,634	8,630	8,626	8,623	8,620	8,617	3
	4	5,844	5,832	5,821	5,811	5,803	5,795	5,787	5,781	5,774	5,769	5,763	5,759	5,754	5,750	5,746	4
	5	4,604	4,590	4,579	4,568	4,558	4,549	4,541	4,534	4,527	4,521	4,515	4,510	4,505	4,500	4,496	5
	6	3,922	3,908	3,896	3,884	3,874	3,865	3,856	3,849	3,841	3,835	3,829	3,823	3,818	3,813	3,808	6
	7	3,494	3,480	3,467	3,455	3,445	3,435	3,426	3,418	3,410	3,404	3,397	3,391	3,386	3,381	3,376	7
	8	3,202	3,187	3,173	3,161	3,150	3,140	3,131	3,123	3,115	3,108	3,102	3,095	3,090	3,084	3,079	8
	9	2,989	2,974	2,960	2,948	2,936	2,926	2,917	2,908	2,900	2,893	2,886	2,880	2,874	2,869	2,864	9
	10	2,828	2,812	2,798	2,785	2,774	2,764	2,754	2,745	2,737	2,730	2,723	2,716	2,710	2,705	2,700	10
	11	2,701	2,685	2,671	2,658	2,646	2,636	2,626	2,617	2,609	2,601	2,594	2,588	2,582	2,576	2,570	11
	12	2,599	2,583	2,568	2,555	2,544	2,533	2,523	2,514	2,505	2,498	2,491	2,484	2,478	2,472	2,466	12
	13	2,515	2,499	2,484	2,471	2,459	2,448	2,438	2,429	2,420	2,412	2,405	2,398	2,392	2,386	2,380	13
	14	2,445	2,428	2,413	2,400	2,388	2,377	2,367	2,357	2,349	2,341	2,333	2,326	2,320	2,314	2,308	14
	15	2,385	2,368	2,353	2,340	2,328	2,316	2,306	2,297	2,288	2,280	2,272	2,265	2,259	2,253	2,247	15
	16	2,333	2,317	2,302	2,288	2,276	2,264	2,254	2,244	2,235	2,227	2,220	2,212	2,206	2,200	2,194	16
	17	2,289	2,272	2,257	2,243	2,230	2,219	2,208	2,199	2,190	2,181	2,174	2,167	2,160	2,154	2,148	17
	18	2,250	2,233	2,217	2,203	2,191	2,179	2,168	2,159	2,150	2,141	2,134	2,126	2,119	2,113	2,107	18
	19	2,215	2,198	2,182	2,168	2,155	2,144	2,133	2,123	2,114	2,106	2,098	2,090	2,084	2,077	2,071	19
	20	2,184	2,167	2,151	2,137	2,124	2,112	2,102	2,092	2,082	2,074	2,066	2,059	2,052	2,045	2,039	20
	21	2,156	2,139	2,123	2,109	2,096	2,084	2,073	2,063	2,054	2,045	2,037	2,030	2,023	2,016	2,010	21
	22	2,131	2,114	2,098	2,084	2,071	2,059	2,048	2,038	2,028	2,020	2,012	2,004	1,997	1,990	1,984	22
	23	2,109	2,091	2,075	2,061	2,048	2,036	2,025	2,014	2,005	1,996	1,988	1,981	1,973	1,967	1,961	23
	24	2,088	2,070	2,054	2,040	2,027	2,015	2,003	1,993	1,984	1,975	1,967	1,959	1,952	1,945	1,939	24
	25	2,069	2,051	2,035	2,021	2,007	1,995	1,984	1,974	1,964	1,955	1,947	1,939	1,932	1,926	1,919	25
	26	2,052	2,034	2,018	2,003	1,990	1,978	1,966	1,956	1,946	1,938	1,929	1,921	1,914	1,907	1,901	26
	27	2,036	2,018	2,002	1,987	1,974	1,961	1,950	1,940	1,930	1,921	1,913	1,905	1,898	1,891	1,884	27
	28	2,021	2,003	1,987	1,972	1,959	1,946	1,935	1,924	1,915	1,906	1,897	1,889	1,882	1,875	1,869	28
	29	2,007	1,989	1,973	1,958	1,945	1,932	1,921	1,910	1,901	1,891	1,883	1,875	1,868	1,861	1,854	29
	30	1,995	1,976	1,960	1,945	1,932	1,919	1,908	1,897	1,887	1,878	1,870	1,862	1,854	1,847	1,841	30
	31	1,983	1,965	1,948	1,933	1,920	1,907	1,896	1,885	1,875	1,866	1,857	1,849	1,842	1,835	1,828	31
	32	1,972	1,953	1,937	1,922	1,908	1,896	1,884	1,873	1,864	1,854	1,846	1,838	1,830	1,823	1,817	32
	33	1,961	1,943	1,926	1,911	1,898	1,885	1,873	1,863	1,853	1,844	1,835	1,827	1,819	1,812	1,806	33
	34	1,952	1,933	1,917	1,902	1,888	1,875	1,863	1,853	1,843	1,833	1,825	1,817	1,809	1,802	1,795	34
	35	1,942	1,924	1,907	1,892	1,878	1,866	1,854	1,843	1,833	1,824	1,815	1,807	1,799	1,792	1,786	35
	40	1,904	1,885	1,868	1,853	1,839	1,826	1,814	1,803	1,793	1,783	1,775	1,766	1,759	1,751	1,744	40
	60	1,815	1,796	1,778	1,763	1,748	1,735	1,722	1,711	1,700	1,690	1,681	1,672	1,664	1,656	1,649	60
	80	1,772	1,752	1,734	1,718	1,703	1,689	1,677	1,665	1,654	1,644	1,634	1,626	1,617	1,609	1,602	80
	90	1,757	1,737	1,720	1,703	1,688	1,675	1,662	1,650	1,639	1,629	1,619	1,610	1,601	1,593	1,586	90
	100	1,746	1,726	1,708	1,691	1,676	1,663	1,650	1,638	1,627	1,616	1,607	1,598	1,589	1,581	1,573	100
	120	1,728	1,709	1,690	1,674	1,659	1,645	1,632	1,620	1,608	1,598	1,588	1,579	1,570	1,562	1,554	120
	inf.	1,644	1,623	1,604	1,587	1,571	1,556	1,542	1,529	1,517	1,506	1,496	1,486	1,476	1,467	1,459	inf.

Tabla D.9: VALORES CRÍTICOS DE LA DISTRIBUCIÓN F (0,05)



área a la derecha del valor crítico = 0,05

f 0.05

g.d.l.	Grados de libertad del Numerador															inf.	g.d.l.
	31	32	33	34	35	36	37	38	39	40	50	60	100	120			
Grados de libertad del Denominador	1	250,2	250,4	250,5	250,6	250,7	250,8	250,9	251,0	251,1	251,1	251,8	252,2	253,0	253,3	254,3	1
	2	19,463	19,464	19,465	19,466	19,467	19,468	19,469	19,469	19,470	19,471	19,476	19,479	19,486	19,487	19,496	2
	3	8,614	8,611	8,609	8,606	8,604	8,602	8,600	8,598	8,596	8,594	8,581	8,572	8,554	8,549	8,526	3
	4	5,742	5,739	5,735	5,732	5,729	5,727	5,724	5,722	5,719	5,717	5,699	5,688	5,664	5,658	5,628	4
	5	4,492	4,488	4,484	4,481	4,478	4,474	4,472	4,469	4,466	4,464	4,444	4,431	4,405	4,398	4,365	5
	6	3,804	3,800	3,796	3,792	3,789	3,786	3,783	3,780	3,777	3,774	3,754	3,740	3,712	3,705	3,669	6
	7	3,371	3,367	3,363	3,359	3,356	3,352	3,349	3,346	3,343	3,340	3,319	3,304	3,275	3,267	3,230	7
	8	3,075	3,070	3,066	3,062	3,059	3,055	3,052	3,049	3,046	3,043	3,020	3,005	2,975	2,967	2,928	8
	9	2,859	2,854	2,850	2,846	2,842	2,839	2,835	2,832	2,829	2,826	2,803	2,787	2,756	2,748	2,707	9
	10	2,695	2,690	2,686	2,681	2,678	2,674	2,670	2,667	2,664	2,661	2,637	2,621	2,588	2,580	2,538	10
	11	2,565	2,561	2,556	2,552	2,548	2,544	2,541	2,537	2,534	2,531	2,507	2,490	2,457	2,448	2,404	11
	12	2,461	2,456	2,452	2,447	2,443	2,439	2,436	2,432	2,429	2,426	2,401	2,384	2,350	2,341	2,296	12
	13	2,375	2,370	2,366	2,361	2,357	2,353	2,349	2,346	2,342	2,339	2,314	2,297	2,261	2,252	2,206	13
	14	2,303	2,298	2,293	2,289	2,284	2,280	2,277	2,273	2,270	2,266	2,241	2,223	2,187	2,178	2,131	14
	15	2,241	2,236	2,232	2,227	2,223	2,219	2,215	2,211	2,208	2,204	2,178	2,160	2,123	2,114	2,066	15
	16	2,188	2,183	2,178	2,174	2,169	2,165	2,161	2,158	2,154	2,151	2,124	2,106	2,068	2,059	2,010	16
	17	2,142	2,137	2,132	2,127	2,123	2,119	2,115	2,111	2,107	2,104	2,077	2,058	2,020	2,011	1,960	17
	18	2,102	2,096	2,091	2,087	2,082	2,078	2,074	2,070	2,066	2,063	2,035	2,017	1,978	1,968	1,917	18
	19	2,066	2,060	2,055	2,050	2,046	2,042	2,037	2,034	2,030	2,026	1,999	1,980	1,940	1,930	1,878	19
	20	2,033	2,028	2,023	2,018	2,013	2,009	2,005	2,001	1,997	1,994	1,966	1,946	1,907	1,896	1,843	20
	21	2,004	1,999	1,994	1,989	1,984	1,980	1,976	1,972	1,968	1,965	1,936	1,916	1,876	1,866	1,812	21
	22	1,978	1,973	1,968	1,963	1,958	1,954	1,949	1,945	1,942	1,938	1,909	1,889	1,849	1,838	1,783	22
	23	1,955	1,949	1,944	1,939	1,934	1,930	1,925	1,921	1,918	1,914	1,885	1,865	1,823	1,813	1,757	23
	24	1,933	1,927	1,922	1,917	1,912	1,908	1,904	1,900	1,896	1,892	1,863	1,842	1,800	1,790	1,733	24
	25	1,913	1,908	1,902	1,897	1,892	1,888	1,884	1,879	1,876	1,872	1,842	1,822	1,779	1,768	1,711	25
	26	1,895	1,889	1,884	1,879	1,874	1,869	1,865	1,861	1,857	1,853	1,823	1,803	1,760	1,749	1,691	26
	27	1,878	1,872	1,867	1,862	1,857	1,852	1,848	1,844	1,840	1,836	1,806	1,785	1,742	1,731	1,672	27
	28	1,863	1,857	1,851	1,846	1,841	1,837	1,832	1,828	1,824	1,820	1,790	1,769	1,725	1,714	1,654	28
	29	1,848	1,842	1,837	1,832	1,827	1,822	1,818	1,813	1,809	1,806	1,775	1,754	1,710	1,698	1,638	29
	30	1,835	1,829	1,823	1,818	1,813	1,808	1,804	1,800	1,796	1,792	1,761	1,740	1,695	1,683	1,622	30
	31	1,822	1,816	1,811	1,805	1,800	1,796	1,791	1,787	1,783	1,779	1,748	1,726	1,681	1,670	1,608	31
	32	1,810	1,804	1,799	1,794	1,789	1,784	1,779	1,775	1,771	1,767	1,736	1,714	1,669	1,657	1,594	32
	33	1,799	1,793	1,788	1,783	1,777	1,773	1,768	1,764	1,760	1,756	1,724	1,702	1,657	1,645	1,581	33
	34	1,789	1,783	1,777	1,772	1,767	1,762	1,758	1,753	1,749	1,745	1,713	1,691	1,645	1,633	1,569	34
	35	1,779	1,773	1,768	1,762	1,757	1,752	1,748	1,743	1,739	1,735	1,703	1,681	1,635	1,623	1,558	35
	40	1,738	1,732	1,726	1,721	1,715	1,710	1,706	1,701	1,697	1,693	1,660	1,637	1,589	1,577	1,509	40
	60	1,642	1,636	1,630	1,624	1,618	1,613	1,608	1,603	1,599	1,594	1,559	1,534	1,481	1,467	1,389	60
	80	1,595	1,588	1,582	1,576	1,570	1,564	1,559	1,554	1,549	1,545	1,508	1,482	1,426	1,411	1,325	80
	90	1,579	1,572	1,566	1,560	1,554	1,548	1,543	1,538	1,533	1,528	1,491	1,465	1,407	1,391	1,302	90
	100	1,566	1,559	1,553	1,547	1,541	1,535	1,530	1,525	1,520	1,515	1,477	1,450	1,392	1,376	1,283	100
	120	1,547	1,540	1,534	1,527	1,521	1,516	1,510	1,505	1,500	1,495	1,457	1,429	1,369	1,352	1,254	120
	inf.	1,451	1,444	1,436	1,429	1,423	1,417	1,411	1,405	1,399	1,394	1,350	1,318	1,243	1,221	1,000	inf.