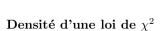


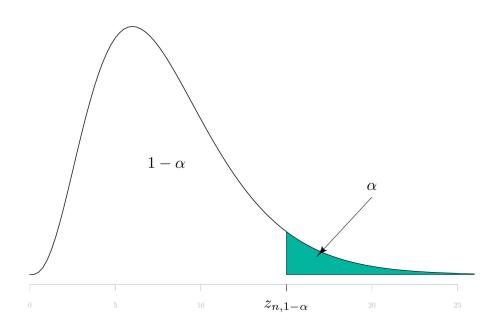


## Appendix D — Table de la loi de Khi-deux $\chi^2$



X étant une variable aléatoire de loi de  $\chi^2$  à n degrés de liberté et  $\alpha$  un réel de [0,1], la table donne la valeur de  $z_{n,1-\alpha}=F_{\chi^2_n}^{-1}(1-\alpha)$  telle que  $P(X>z_{n,1-\alpha})=\alpha$ . En  $\P$ , la commande correspondante est qchisq(1-alpha, n) .





\$n \backslash \alpha\$	0.995	0.99	0.975	0.95	0.9	0.8	0.7	0.5	0.3	0.2	0.1	0.05	0.025	0.01	0
1	0.000	0.000	0.001	0.004	0.016	0.064	0.148	0.455	1.07	1.64	2.71	3.84	5.02	6.63	
2	0.010	0.020	0.051	0.103	0.211	0.446	0.713	1.386	2.41	3.22	4.61	5.99	7.38	9.21	1
3	0.072	0.115	0.216	0.352	0.584	1.005	1.424	2.366	3.67	4.64	6.25	7.82	9.35	11.35	1
4	0.207	0.297	0.484	0.711	1.064	1.649	2.195	3.357	4.88	5.99	7.78	9.49	11.14	13.28	1
5	0.412	0.554	0.831	1.145	1.610	2.343	3.000	4.351	6.06	7.29	9.24	11.07	12.83	15.09	1
6	0.676	0.872	1.237	1.635	2.204	3.070	3.828	5.348	7.23	8.56	10.64	12.59	14.45	16.81	1
7	0.989	1.239	1.690	2.167	2.833	3.822	4.671	6.346	8.38	9.80	12.02	14.07	16.01	18.48	2
8	1.344	1.646	2.180	2.733	3.490	4.594	5.527	7.344	9.52	11.03	13.36	15.51	17.54	20.09	2
9	1.735	2.088	2.700	3.325	4.168	5.380	6.393	8.343	10.66	12.24	14.68	16.92	19.02	21.67	2
10	2.156	2.558	3.247	3.940	4.865	6.179	7.267	9.342	11.78	13.44	15.99	18.31	20.48	23.21	2
11	2.603	3.053	3.816	4.575	5.578	6.989	8.148	10.341	12.90	14.63	17.27	19.68	21.92	24.73	2
12	3.074	3.571	4.404	5.226	6.304	7.807	9.034	11.340	14.01	15.81	18.55	21.03	23.34	26.22	2
13	3.565	4.107	5.009	5.892	7.042	8.634	9.926	12.340	15.12	16.98	19.81	22.36	24.74	27.69	2
14	4.075	4.660	5.629	6.571	7.790	9.467	10.821	13.339	16.22	18.15	21.06	23.68	26.12	29.14	3

\$n														
\backslash \alpha\$	0.995	0.99	0.975	0.95	0.9	0.8	0.7	0.5	0.3	0.2	0.1	0.05	0.025	0.01
15	4.601	5.229	6.262	7.261	8.547	10.307	11.721	14.339	17.32	19.31	22.31	25.00	27.49	30.58
16	5.142	5.812	6.908	7.962	9.312	11.152	12.624	15.338	18.42	20.46	23.54	26.30	28.84	32.00
17	5.697	6.408	7.564	8.672	10.085	12.002	13.531	16.338	19.51	21.61	24.77	27.59	30.19	33.41
18	6.265	7.015	8.231	9.390	10.865	12.857	14.440	17.338	20.60	22.76	25.99	28.87	31.53	34.80
19	6.844	7.633	8.907	10.117	11.651	13.716	15.352	18.338	21.69	23.90	27.20	30.14	32.85	36.19
20	7.434	8.260	9.591	10.851	12.443	14.578	16.266	19.337	22.77	25.04	28.41	31.41	34.17	37.57
21	8.034	8.897	10.283	11.591	13.240	15.445	17.182	20.337	23.86	26.17	29.61	32.67	35.48	38.93
22	8.643	9.542	10.982	12.338	14.041	16.314	18.101	21.337	24.94	27.30	30.81	33.92	36.78	40.29
23	9.260	10.196	11.689	13.091	14.848	17.187	19.021	22.337	26.02	28.43	32.01	35.17	38.08	41.64
24	9.886	10.856	12.401	13.848	15.659	18.062	19.943	23.337	27.10	29.55	33.20	36.41	39.36	42.98
25	10.520	11.524	13.120	14.611	16.473	18.940	20.867	24.337	28.17	30.68	34.38	37.65	40.65	44.31
26	11.160	12.198	13.844	15.379	17.292	19.820	21.792	25.336	29.25	31.80	35.56	38.88	41.92	45.64
27	11.808	12.879	14.573	16.151	18.114	20.703	22.719	26.336	30.32	32.91	36.74	40.11	43.20	46.96
28	12.461	13.565	15.308	16.928	18.939	21.588	23.647	27.336	31.39	34.03	37.92	41.34	44.46	48.28
29	13.121	14.256	16.047	17.708	19.768	22.475	24.577	28.336	32.46	35.14	39.09	42.56	45.72	49.59
30	13.787	14.953	16.791	18.493	20.599	23.364	25.508	29.336	33.53	36.25	40.26	43.77	46.98	50.89
31	14.458	15.655	17.539	19.281	21.434	24.255	26.440	30.336	34.60	37.36	41.42	44.98	48.23	52.19
32	15.134	16.362	18.291	20.072	22.271	25.148	27.373	31.336	35.66	38.47	42.59	46.19	49.48	53.49
33	15.815	17.074	19.047	20.867	23.110	26.042	28.307	32.336	36.73	39.57	43.74	47.40	50.73	54.78
34	16.501	17.789	19.806	21.664	23.952	26.938	29.242	33.336	37.80	40.68	44.90	48.60	51.97	56.06
35	17.192	18.509	20.569	22.465	24.797	27.836	30.178	34.336	38.86	41.78	46.06	49.80	53.20	57.34
36	17.887	19.233	21.336	23.269	25.643	28.735	31.115	35.336	39.92	42.88	47.21	51.00	54.44	58.62
37	18.586	19.960	22.106	24.075	26.492	29.635	32.053	36.336	40.98	43.98	48.36	52.19	55.67	59.89
38	19.289	20.691	22.878	24.884	27.343	30.537	32.992	37.335	42.05	45.08	49.51	53.38	56.90	61.16
39	19.996	21.426	23.654	25.695	28.196	31.441	33.932	38.335	43.10	46.17	50.66	54.57	58.12	62.43
40	20.707	22.164	24.433	26.509	29.051	32.345	34.872	39.335	44.16	47.27	51.80	55.76	59.34	63.69
41	21.421	22.906	25.215	27.326	29.907	33.251	35.813	40.335	45.22	48.36	52.95	56.94	60.56	64.95
42	22.138	23.650	25.999	28.144	30.765	34.157	36.755	41.335	46.28	49.46	54.09	58.12	61.78	66.21
43	22.859	24.398	26.785	28.965	31.625	35.065	37.698	42.335	47.34	50.55	55.23	59.30	62.99	67.46
44	23.584	25.148	27.575	29.787	32.487	35.974	38.641	43.335	48.40	51.64	56.37	60.48	64.20	68.71
45	24.311	25.901	28.366	30.612	33.350	36.884	39.585	44.335	49.45	52.73	57.51	61.66	65.41	69.96
46	25.041	26.657	29.160	31.439	34.215	37.795	40.529	45.335	50.51	53.82	58.64	62.83	66.62	71.20
47	25.775	27.416	29.956	32.268	35.081	38.708	41.474	46.335	51.56	54.91	59.77	64.00	67.82	72.44
48	26.511	28.177	30.755	33.098	35.949	39.621	42.420	47.335	52.62	55.99	60.91	65.17	69.02	73.68
49	27.249	28.941	31.555	33.930	36.818	40.534	43.366	48.335	53.67	57.08	62.04	66.34	70.22	74.92

\$n \backslash \alpha\$	0.995	0.99	0.975	0.95	0.9	0.8	0.7	0.5	0.3	0.2	0.1	0.05	0.025	0.01	0
50	27.991	29.707	32.357	34.764	37.689	41.449	44.313	49.335	54.72	58.16	63.17	67.50	71.42	76.15	7