

Tabelle für die Quantile der χ^2 -Verteilung (Chi-Quadrat-Verteilung)

In der folgenden Tabelle findet man die Werte für x , für die $\int_0^x \frac{1}{2^{\frac{r}{2}} \Gamma(\frac{r}{2})} t^{\frac{r}{2}-1} e^{-\frac{t}{2}} dt = \gamma$ gilt. Die Werte für γ sind jeweils im Kopf der Spalte eingetragen, und die Werte für r (Anzahl der Freiheitsgrade) am linken Rand der Zeile.

	0.001	0.005	0.01	0.015	0.02	0.025	0.03	0.035	0.04	0.045	0.05	0.06	0.07	0.08	0.09	0.1
1	0.0000	0.0000	0.0002	0.0004	0.0006	0.0010	0.0014	0.0019	0.0025	0.0032	0.0039	0.0057	0.0077	0.0101	0.0128	0.0158
2	0.0020	0.0100	0.0201	0.0302	0.0404	0.0506	0.0609	0.0713	0.0816	0.0921	0.1026	0.1238	0.1451	0.1668	0.1886	0.2107
3	0.0243	0.0717	0.1148	0.1516	0.1848	0.2158	0.2451	0.2731	0.3002	0.3263	0.3518	0.4012	0.4487	0.4949	0.5401	0.5844
4	0.0908	0.2070	0.2971	0.3682	0.4294	0.4844	0.5351	0.5824	0.6271	0.6698	0.7107	0.7884	0.8616	0.9315	0.9987	1.0636
5	0.2102	0.4117	0.5543	0.6618	0.7519	0.8312	0.9031	0.9693	1.0313	1.0898	1.1455	1.2499	1.3472	1.4390	1.5264	1.6103
6	0.3811	0.6757	0.8721	1.0160	1.1344	1.2373	1.3296	1.4140	1.4924	1.5659	1.6354	1.7649	1.8846	1.9967	2.1029	2.2041
7	0.5985	0.9893	1.2390	1.4184	1.5643	1.6899	1.8016	1.9033	1.9971	2.0848	2.1673	2.3205	2.4611	2.5921	2.7157	2.8331
8	0.8571	1.3444	1.6465	1.8603	2.0325	2.1797	2.3101	2.4281	2.5366	2.6377	2.7326	2.9080	3.0683	3.2172	3.3570	3.4895
9	1.1519	1.7349	2.0879	2.3349	2.5324	2.7004	2.8485	2.9821	3.1047	3.2185	3.3251	3.5215	3.7004	3.8661	4.0214	4.1682
10	1.4787	2.1559	2.5582	2.8372	3.0591	3.2470	3.4121	3.5606	3.6965	3.8225	3.9403	4.1567	4.3534	4.5350	4.7049	4.8652
11	1.8339	2.6032	3.0535	3.3634	3.6087	3.8157	3.9972	4.1600	4.3087	4.4463	4.5748	4.8104	5.0240	5.2209	5.4046	5.5778
12	2.2142	3.0738	3.5706	3.9104	4.1783	4.4038	4.6009	4.7775	4.9385	5.0873	5.2260	5.4800	5.7098	5.9212	6.1183	6.3038
13	2.6172	3.5650	4.1069	4.4757	4.7654	5.0088	5.2210	5.4109	5.5838	5.7432	5.8919	6.1635	6.4088	6.6343	6.8442	7.0415
14	3.0407	4.0747	4.6604	5.0572	5.3682	5.6287	5.8556	6.0583	6.2426	6.4125	6.5706	6.8593	7.1197	7.3587	7.5809	7.7895
15	3.4827	4.6009	5.2293	5.6534	5.9849	6.2621	6.5032	6.7183	6.9137	7.0936	7.2609	7.5661	7.8410	8.0930	8.3271	8.5468
16	3.9416	5.1422	5.8122	6.2628	6.6142	6.9077	7.1625	7.3896	7.5958	7.7854	7.9616	8.2827	8.5717	8.8363	9.0820	9.3122
17	4.4161	5.6972	6.4078	6.8842	7.2550	7.5642	7.8324	8.0712	8.2878	8.4868	8.6718	9.0083	9.3109	9.5878	9.8446	10.085
18	4.9048	6.2648	7.0149	7.5165	7.9062	8.2307	8.5120	8.7622	8.9889	9.1971	9.3905	9.7421	10.058	10.347	10.614	10.865
19	5.4068	6.8440	7.6327	8.1588	8.5670	8.9065	9.2004	9.4617	9.6983	9.9155	10.117	10.483	10.812	11.112	11.391	11.651
20	5.9210	7.4338	8.2604	8.8105	9.2367	9.5908	9.8971	10.169	10.415	10.641	10.851	11.231	11.573	11.884	12.173	12.443
21	6.4467	8.0337	8.8972	9.4708	9.9146	10.283	10.601	10.884	11.140	11.374	11.591	11.986	12.339	12.662	12.961	13.240
22	6.9830	8.6427	9.5425	10.139	10.600	10.982	11.313	11.605	11.870	12.113	12.338	12.746	13.112	13.445	13.753	14.041
23	7.5292	9.2604	10.196	10.815	11.293	11.689	12.030	12.333	12.607	12.858	13.091	13.512	13.889	14.233	14.551	14.848
24	8.0849	9.8862	10.856	11.497	11.992	12.401	12.754	13.067	13.350	13.609	13.848	14.283	14.672	15.026	15.353	15.659
25	8.6493	10.520	11.524	12.187	12.697	13.120	13.484	13.807	14.098	14.365	14.611	15.059	15.459	15.823	16.159	16.473
26	9.2221	11.160	12.198	12.882	13.409	13.844	14.219	14.551	14.851	15.125	15.379	15.839	16.250	16.624	16.970	17.292
27	9.8028	11.808	12.879	13.583	14.125	14.573	14.959	15.301	15.609	15.891	16.151	16.624	17.045	17.429	17.783	18.114
28	10.391	12.461	13.565	14.290	14.847	15.308	15.704	16.055	16.371	16.660	16.928	17.412	17.844	18.238	18.601	18.939
29	10.986	13.121	14.256	15.002	15.574	16.047	16.454	16.813	17.138	17.434	17.708	18.204	18.647	19.050	19.421	19.768
30	11.588	13.787	14.953	15.719	16.306	16.791	17.208	17.576	17.908	18.212	18.493	19.000	19.453	19.865	20.245	20.599
31	12.196	14.458	15.655	16.440	17.042	17.539	17.966	18.343	18.683	18.993	19.281	19.800	20.263	20.684	21.072	21.434
32	12.811	15.134	16.362	17.166	17.783	18.291	18.727	19.113	19.461	19.778	20.072	20.602	21.075	21.505	21.902	22.271
33	13.431	15.815	17.074	17.897	18.527	19.047	19.493	19.887	20.242	20.567	20.867	21.408	21.891	22.330	22.734	23.110
34	14.057	16.501	17.789	18.631	19.275	19.806	20.262	20.665	21.027	21.358	21.664	22.217	22.709	23.157	23.569	23.952
35	14.688	17.192	18.509	19.369	20.027	20.569	21.035	21.446	21.815	22.153	22.465	23.028	23.530	23.986	24.406	24.797

	0.001	0.005	0.01	0.015	0.02	0.025	0.03	0.035	0.04	0.045	0.05	0.06	0.07	0.08	0.09	0.1
36	15.324	17.887	19.233	20.111	20.783	21.336	21.811	22.229	22.607	22.951	23.269	23.843	24.354	24.818	25.245	25.643
37	15.965	18.586	19.960	20.857	21.542	22.106	22.589	23.016	23.401	23.751	24.075	24.659	25.180	25.652	26.087	26.492
38	16.611	19.289	20.691	21.605	22.304	22.878	23.371	23.806	24.197	24.554	24.884	25.479	26.008	26.489	26.931	27.343
39	17.262	19.996	21.426	22.358	23.069	23.654	24.156	24.599	24.997	25.360	25.695	26.301	26.839	27.328	27.777	28.196
40	17.916	20.707	22.164	23.113	23.838	24.433	24.944	25.394	25.799	26.168	26.509	27.125	27.672	28.169	28.625	29.051
41	18.575	21.421	22.906	23.871	24.609	25.215	25.734	26.192	26.603	26.979	27.326	27.951	28.507	29.011	29.475	29.907
42	19.239	22.138	23.650	24.633	25.383	25.999	26.527	26.992	27.410	27.792	28.144	28.779	29.344	29.856	30.327	30.765
43	19.906	22.859	24.398	25.397	26.159	26.785	27.322	27.795	28.220	28.607	28.965	29.610	30.183	30.703	31.181	31.625
44	20.576	23.584	25.148	26.164	26.939	27.575	28.119	28.600	29.031	29.425	29.787	30.442	31.024	31.551	32.036	32.487
45	21.251	24.311	25.901	26.933	27.720	28.366	28.919	29.407	29.845	30.244	30.612	31.276	31.866	32.401	32.893	33.350
46	21.929	25.041	26.657	27.706	28.505	29.160	29.722	30.216	30.660	31.065	31.439	32.112	32.711	33.253	33.752	34.215
47	22.610	25.775	27.416	28.480	29.291	29.956	30.526	31.027	31.478	31.889	32.268	32.950	33.557	34.107	34.612	35.081
48	23.295	26.511	28.177	29.257	30.080	30.755	31.332	31.841	32.298	32.714	33.098	33.790	34.405	34.962	35.473	35.949
49	23.983	27.249	28.941	30.036	30.871	31.555	32.141	32.656	33.119	33.541	33.930	34.631	35.254	35.818	36.337	36.818
50	24.674	27.991	29.707	30.818	31.664	32.357	32.951	33.473	33.943	34.370	34.764	35.474	36.105	36.676	37.201	37.689
55	28.173	31.735	33.570	34.757	35.659	36.398	37.030	37.586	38.085	38.539	38.958	39.712	40.381	40.987	41.543	42.060
60	31.738	35.534	37.485	38.744	39.699	40.482	41.150	41.738	42.266	42.746	43.188	43.984	44.690	45.328	45.915	46.459
65	35.362	39.383	41.444	42.771	43.779	44.603	45.307	45.925	46.480	46.985	47.450	48.286	49.027	49.697	50.312	50.883
70	39.036	43.275	45.442	46.836	47.893	48.758	49.495	50.143	50.724	51.253	51.739	52.614	53.389	54.090	54.733	55.329
75	42.757	47.206	49.475	50.934	52.039	52.942	53.712	54.389	54.995	55.547	56.054	56.966	57.774	58.504	59.174	59.795
80	46.520	51.172	53.540	55.061	56.213	57.153	57.955	58.659	59.290	59.864	60.391	61.340	62.179	62.938	63.633	64.278
85	50.320	55.170	57.634	59.215	60.412	61.389	62.222	62.953	63.607	64.202	64.749	65.733	66.603	67.389	68.109	68.777
90	54.155	59.196	61.754	63.394	64.635	65.647	66.509	67.266	67.944	68.560	69.126	70.143	71.044	71.856	72.601	73.291
95	58.022	63.250	65.898	67.596	68.879	69.925	70.817	71.599	72.299	72.935	73.520	74.570	75.500	76.338	77.107	77.818
100	61.918	67.328	70.065	71.818	73.142	74.222	75.142	75.949	76.671	77.326	77.929	79.012	79.970	80.834	81.625	82.358
110	69.789	75.550	78.458	80.318	81.723	82.867	83.841	84.696	85.460	86.154	86.792	87.936	88.948	89.861	90.697	91.471
120	77.755	83.852	86.923	88.886	90.367	91.573	92.599	93.499	94.303	95.033	95.705	96.909	97.973	98.932	99.811	100.62
130	85.804	92.222	95.451	97.512	99.066	100.33	101.41	102.35	103.19	103.96	104.66	105.92	107.04	108.04	108.96	109.81
140	93.926	100.65	104.03	106.19	107.81	109.14	110.26	111.25	112.13	112.93	113.66	114.98	116.14	117.18	118.14	119.03
150	102.11	109.14	112.67	114.91	116.61	117.98	119.16	120.18	121.10	121.93	122.69	124.06	125.27	126.36	127.35	128.28
160	110.36	117.68	121.35	123.68	125.44	126.87	128.09	129.15	130.10	130.96	131.76	133.18	134.43	135.56	136.59	137.55
170	118.66	126.26	130.06	132.49	134.31	135.79	137.05	138.15	139.14	140.03	140.85	142.32	143.62	144.78	145.85	146.84
180	127.01	134.88	138.82	141.32	143.21	144.74	146.04	147.18	148.20	149.12	149.97	151.49	152.83	154.03	155.13	156.15
190	135.41	143.55	147.61	150.20	152.14	153.72	155.06	156.24	157.29	158.24	159.11	160.68	162.06	163.30	164.44	165.49
200	143.84	152.24	156.43	159.10	161.10	162.73	164.11	165.32	166.40	167.38	168.28	169.89	171.31	172.59	173.76	174.84
300	229.96	240.66	245.97	249.34	251.86	253.91	255.65	257.17	258.52	259.75	260.88	262.89	264.67	266.26	267.72	269.07
400	318.26	330.90	337.16	341.11	344.08	346.48	348.52	350.30	351.89	353.32	354.64	357.00	359.07	360.94	362.64	364.21
500	407.95	422.30	429.39	433.87	437.22	439.94	442.24	444.25	446.04	447.66	449.15	451.80	454.14	456.24	458.16	459.93
600	498.62	514.53	522.37	527.31	531.02	534.02	536.56	538.78	540.75	542.54	544.18	547.11	549.69	552.00	554.11	556.06
700	590.05	607.38	615.91	621.29	625.32	628.58	631.34	633.75	635.89	637.83	639.61	642.79	645.59	648.10	650.39	652.50
800	682.07	700.73	709.90	715.68	720.01	723.51	726.48	729.06	731.37	733.45	735.36	738.77	741.77	744.47	746.92	749.19
900	774.57	794.47	804.25	810.42	815.03	818.76	821.91	824.67	827.12	829.34	831.37	835.00	838.19	841.06	843.67	846.07
1000	867.48	888.56	898.91	905.44	910.31	914.26	917.60	920.51	923.10	925.45	927.59	931.43	934.80	937.83	940.59	943.13

	0.9	0.91	0.92	0.93	0.94	0.95	0.955	0.96	0.965	0.97	0.975	0.98	0.985	0.99	0.995	0.999
36	47.212	47.816	48.478	49.213	50.042	50.998	51.540	52.137	52.804	53.560	54.437	55.489	56.811	58.619	61.581	67.985
37	48.363	48.974	49.644	50.387	51.225	52.192	52.740	53.344	54.017	54.781	55.668	56.730	58.067	59.893	62.883	69.346
38	49.513	50.130	50.807	51.559	52.406	53.384	53.937	54.547	55.227	56.000	56.896	57.969	59.318	61.162	64.181	70.703
39	50.660	51.284	51.969	52.728	53.584	54.572	55.132	55.748	56.435	57.215	58.120	59.204	60.567	62.428	65.476	72.055
40	51.805	52.436	53.128	53.895	54.761	55.758	56.324	56.946	57.640	58.428	59.342	60.436	61.812	63.691	66.766	73.402
41	52.949	53.586	54.285	55.060	55.934	56.942	57.513	58.142	58.843	59.638	60.561	61.665	63.054	64.950	68.053	74.745
42	54.090	54.735	55.441	56.223	57.106	58.124	58.700	59.335	60.043	60.845	61.777	62.892	64.293	66.206	69.336	76.084
43	55.230	55.881	56.594	57.385	58.276	59.304	59.885	60.526	61.240	62.050	62.990	64.116	65.529	67.459	70.616	77.419
44	56.369	57.026	57.746	58.544	59.444	60.481	61.068	61.714	62.435	63.253	64.201	65.337	66.763	68.710	71.893	78.750
45	57.505	58.169	58.895	59.701	60.609	61.656	62.249	62.901	63.628	64.453	65.410	66.555	67.994	69.957	73.166	80.077
46	58.641	59.310	60.044	60.857	61.773	62.830	63.427	64.085	64.819	65.652	66.617	67.771	69.222	71.201	74.437	81.400
47	59.774	60.450	61.190	62.011	62.936	64.001	64.604	65.268	66.008	66.847	67.821	68.985	70.448	72.443	75.704	82.720
48	60.907	61.589	62.335	63.163	64.096	65.171	65.779	66.448	67.195	68.041	69.023	70.197	71.671	73.683	76.969	84.037
49	62.038	62.726	63.479	64.314	65.255	66.339	66.952	67.627	68.380	69.233	70.222	71.406	72.892	74.919	78.231	85.351
50	63.167	63.861	64.621	65.463	66.412	67.505	68.123	68.804	69.563	70.423	71.420	72.613	74.111	76.154	79.490	86.661
55	68.796	69.519	70.310	71.187	72.174	73.311	73.955	74.662	75.451	76.345	77.380	78.619	80.173	82.292	85.749	93.168
60	74.397	75.148	75.969	76.879	77.903	79.082	79.749	80.482	81.299	82.225	83.298	84.580	86.188	88.379	91.952	99.607
65	79.973	80.750	81.600	82.542	83.601	84.821	85.510	86.268	87.113	88.069	89.177	90.501	92.161	94.422	98.105	105.99
70	85.527	86.330	87.208	88.179	89.273	90.531	91.242	92.024	92.895	93.881	95.023	96.388	98.098	100.43	104.21	112.32
75	91.061	91.889	92.793	93.795	94.921	96.217	96.949	97.753	98.650	99.665	100.84	102.24	104.00	106.39	110.29	118.60
80	96.578	97.429	98.360	99.389	100.55	101.88	102.63	103.46	104.38	105.42	106.63	108.07	109.87	112.33	116.32	124.84
85	102.08	102.95	103.91	104.97	106.15	107.52	108.29	109.14	110.09	111.16	112.39	113.87	115.72	118.24	122.32	131.04
90	107.57	108.46	109.44	110.53	111.74	113.15	113.94	114.81	115.77	116.87	118.14	119.65	121.54	124.12	128.30	137.21
95	113.04	113.96	114.96	116.07	117.32	118.75	119.56	120.45	121.44	122.56	123.86	125.40	127.34	129.97	134.25	143.34
100	118.50	119.44	120.46	121.60	122.88	124.34	125.17	126.08	127.09	128.24	129.56	131.14	133.12	135.81	140.17	149.45
110	129.39	130.37	131.44	132.62	133.95	135.48	136.34	137.29	138.34	139.54	140.92	142.56	144.62	147.41	151.95	161.58
120	140.23	141.25	142.37	143.60	144.98	146.57	147.46	148.45	149.54	150.78	152.21	153.92	156.05	158.95	163.65	173.62
130	151.05	152.10	153.26	154.53	155.97	157.61	158.54	159.56	160.69	161.97	163.45	165.22	167.43	170.42	175.28	185.57
140	161.83	162.92	164.11	165.43	166.91	168.61	169.57	170.62	171.80	173.12	174.65	176.47	178.75	181.84	186.85	197.45
150	172.58	173.71	174.94	176.30	177.83	179.58	180.57	181.65	182.86	184.22	185.80	187.68	190.03	193.21	198.36	209.26
160	183.31	184.47	185.74	187.14	188.71	190.52	191.53	192.65	193.89	195.29	196.92	198.85	201.26	204.53	209.82	221.02
170	194.02	195.21	196.51	197.95	199.57	201.42	202.47	203.62	204.89	206.33	208.00	209.98	212.46	215.81	221.24	232.72
180	204.70	205.93	207.27	208.74	210.40	212.30	213.38	214.55	215.86	217.34	219.04	221.08	223.62	227.06	232.62	244.37
190	215.37	216.63	218.00	219.51	221.21	223.16	224.26	225.46	226.80	228.32	230.06	232.15	234.75	238.27	243.96	255.98
200	226.02	227.31	228.71	230.26	232.00	233.99	235.12	236.35	237.72	239.27	241.06	243.19	245.85	249.45	255.26	267.54
300	331.79	333.34	335.03	336.90	339.00	341.40	342.75	344.23	345.87	347.73	349.87	352.42	355.61	359.91	366.84	381.43
400	436.65	438.43	440.36	442.50	444.89	447.63	449.17	450.87	452.74	454.86	457.31	460.21	463.83	468.72	476.61	493.13
500	540.93	542.91	545.06	547.43	550.09	553.13	554.84	556.71	558.80	561.14	563.85	567.07	571.08	576.49	585.21	603.45
600	644.80	646.95	649.30	651.89	654.78	658.09	659.96	662.00	664.27	666.82	669.77	673.27	677.63	683.52	692.98	712.77
700	748.36	750.68	753.20	755.98	759.10	762.66	764.66	766.86	769.30	772.04	775.21	778.97	783.65	789.97	800.13	821.35
800	851.67	854.14	856.83	859.80	863.12	866.91	869.05	871.38	873.98	876.90	880.28	884.28	889.26	895.98	906.79	929.33
900	954.78	957.40	960.24	963.38	966.89	970.90	973.16	975.63	978.38	981.47	985.03	989.26	994.53	1001.6	1013.0	1036.8
1000	1057.7	1060.5	1063.5	1066.8	1070.5	1074.7	1077.1	1079.7	1082.5	1085.8	1089.5	1094.0	1099.5	1107.0	1118.9	1143.9

	0.9	0.91	0.92	0.93	0.94	0.95	0.955	0.96	0.965	0.97	0.975	0.98	0.985	0.99	0.995	0.999
1	2.7055	2.8744	3.0649	3.2830	3.5374	3.8415	4.0186	4.2179	4.4452	4.7093	5.0239	5.4119	5.9165	6.6349	7.8794	10.828
2	4.6052	4.8159	5.0515	5.3185	5.6268	5.9915	6.2022	6.4378	6.7048	7.0131	7.3778	7.8240	8.3994	9.2103	10.597	13.816
3	6.2514	6.4915	6.7587	7.0603	7.4069	7.8147	8.0495	8.3112	8.6069	8.9473	9.3484	9.8374	10.465	11.345	12.838	16.266
4	7.7794	8.0434	8.3365	8.6664	9.0444	9.4877	9.7423	10.026	10.345	10.712	11.143	11.668	12.339	13.277	14.860	18.467
5	9.2364	9.5211	9.8366	10.191	10.596	11.070	11.342	11.644	11.985	12.375	12.833	13.388	14.098	15.086	16.750	20.515
6	10.645	10.948	11.283	11.660	12.090	12.592	12.879	13.198	13.557	13.968	14.449	15.033	15.777	16.812	18.548	22.458
7	12.017	12.337	12.691	13.088	13.540	14.067	14.369	14.703	15.079	15.509	16.013	16.622	17.398	18.475	20.278	24.322
8	13.362	13.697	14.068	14.484	14.956	15.507	15.822	16.171	16.563	17.010	17.535	18.168	18.974	20.090	21.955	26.124
9	14.684	15.034	15.421	15.854	16.346	16.919	17.246	17.608	18.015	18.480	19.023	19.679	20.513	21.666	23.589	27.877
10	15.987	16.352	16.753	17.203	17.713	18.307	18.646	19.021	19.442	19.922	20.483	21.161	22.021	23.209	25.188	29.588
11	17.275	17.653	18.069	18.533	19.061	19.675	20.025	20.412	20.846	21.342	21.920	22.618	23.503	24.725	26.757	31.264
12	18.549	18.939	19.369	19.849	20.393	21.026	21.386	21.785	22.232	22.742	23.337	24.054	24.963	26.217	28.300	32.909
13	19.812	20.214	20.657	21.151	21.711	22.362	22.733	23.142	23.601	24.125	24.736	25.472	26.403	27.688	29.819	34.528
14	21.064	21.478	21.933	22.441	23.017	23.685	24.065	24.485	24.956	25.493	26.119	26.873	27.827	29.141	31.319	36.123
15	22.307	22.732	23.199	23.720	24.311	24.996	25.385	25.816	26.298	26.848	27.488	28.259	29.235	30.578	32.801	37.697
16	23.542	23.977	24.456	24.990	25.595	26.296	26.695	27.136	27.629	28.191	28.845	29.633	30.629	32.000	34.267	39.252
17	24.769	25.215	25.705	26.251	26.870	27.587	27.995	28.445	28.949	29.523	30.191	30.995	32.011	33.409	35.718	40.790
18	25.989	26.445	26.947	27.505	28.137	28.869	29.285	29.745	30.259	30.845	31.526	32.346	33.382	34.805	37.156	42.312
19	27.204	27.669	28.181	28.751	29.396	30.144	30.568	31.037	31.561	32.158	32.852	33.687	34.742	36.191	38.582	43.820
20	28.412	28.887	29.410	29.991	30.649	31.410	31.843	32.321	32.855	33.462	34.170	35.020	36.093	37.566	39.997	45.315
21	29.615	30.100	30.632	31.225	31.895	32.671	33.111	33.597	34.141	34.759	35.479	36.343	37.434	38.932	41.401	46.797
22	30.813	31.307	31.849	32.453	33.135	33.924	34.373	34.867	35.420	36.049	36.781	37.659	38.768	40.289	42.796	48.268
23	32.007	32.510	33.062	33.675	34.370	35.172	35.628	36.131	36.693	37.332	38.076	38.968	40.094	41.638	44.181	49.728
24	33.196	33.708	34.269	34.893	35.599	36.415	36.878	37.389	37.960	38.609	39.364	40.270	41.413	42.980	45.559	51.179
25	34.382	34.902	35.472	36.106	36.824	37.652	38.123	38.642	39.221	39.880	40.646	41.566	42.725	44.314	46.928	52.620
26	35.563	36.091	36.671	37.315	38.044	38.885	39.363	39.889	40.477	41.146	41.923	42.856	44.031	45.642	48.290	54.052
27	36.741	37.278	37.866	38.520	39.259	40.113	40.598	41.132	41.729	42.407	43.195	44.140	45.331	46.963	49.645	55.476
28	37.916	38.460	39.058	39.721	40.471	41.337	41.828	42.370	42.975	43.662	44.461	45.419	46.626	48.278	50.993	56.892
29	39.087	39.640	40.246	40.919	41.679	42.557	43.055	43.604	44.217	44.913	45.722	46.693	47.915	49.588	52.336	58.301
30	40.256	40.816	41.430	42.113	42.883	43.773	44.277	44.834	45.455	46.160	46.979	47.962	49.199	50.892	53.672	59.703
31	41.422	41.989	42.612	43.303	44.084	44.985	45.496	46.059	46.688	47.402	48.232	49.226	50.478	52.191	55.003	61.098
32	42.585	43.160	43.791	44.491	45.282	46.194	46.712	47.282	47.918	48.641	49.480	50.487	51.753	53.486	56.328	62.487
33	43.745	44.328	44.966	45.675	46.476	47.400	47.923	48.500	49.145	49.876	50.725	51.743	53.024	54.776	57.648	63.870
34	44.903	45.493	46.140	46.857	47.667	48.602	49.132	49.716	50.368	51.107	51.966	52.995	54.290	56.061	58.964	65.247
35	46.059	46.656	47.310	48.036	48.856	49.802	50.338	50.928	51.587	52.335	53.203	54.244	55.553	57.342	60.275	66.619