Tables des principales lois

On donne ici quelques valeurs des fonctions de répartition des lois usuelles (loi de Poisson, loi normale centrée réduite, loi de Student, loi du χ^2), sous forme de tables directement utilisables.

1- Loi de Poisson

si X suit une loi de Poisson de paramètre Λ, on lit à l'intersection de la ligne k et de la colonne Λ les valeurs de

$$p(X = k) = e^{-\Lambda}\Lambda^k/k! \qquad \text{et} \qquad p(X \leq k) = \sum_{i=0}^{k} e^{-\Lambda}\Lambda^i/i!$$

	Λ =0.1		Λ =0.3		Λ =0.5		Λ =0.7		Λ =0.9	
k	$p(X = k)$	$p(X \leq k)$	$p(X = k)$	$p(X \leq k)$	$p(X = k)$	$p(X \leq k)$	$p(X = k)$	$p(X \leq k)$	$p(X = k)$	$p(X \leq k)$
0	0.9048	0.9048	0.7408	0.7408	0.6065	0.6065	0.4966	0.4966	0.4066	0.4066
1	0.0905	0.9953	0.2222	0.9631	0.3033	0.9098	0.3476	0.8442	0.3659	0.7725
2	0.0045	0.9998	0.0333	0.9964	0.0758	0.9856	0.1217	0.9659	0.1647	0.9371
3	0.0002	1.0	0.0033	0.9997	0.0126	0.9982	0.0284	0.9942	0.0494	0.9865
4	0.0	1.0	0.0003	1.0	0.0016	0.9998	0.005	0.9992	0.0111	0.9977
5	0.0	1.0	0.0	1.0	0.0002	1.0	0.0007	0.9999	0.002	0.9997
6	0.0	1.0	0.0	1.0	0.0	1.0	0.0001	1.0	0.0003	1.0
7	0.0	1.0	0.0	1.0	0.0	1.0	0.0	1.0	0.0	1.0

	Λ =1		Λ =2		Λ =3		Λ =4		Λ =5	
k	$p(X = k)$	$p(X \leq k)$	$p(X = k)$	$p(X \leq k)$	$p(X = k)$	$p(X \leq k)$	$p(X = k)$	$p(X \leq k)$	$p(X = k)$	$p(X \leq k)$
0	0.3679	0.3679	0.1353	0.1353	0.0498	0.0498	0.0183	0.0183	0.0067	0.0067
1	0.3679	0.7358	0.2707	0.406	0.1494	0.1991	0.0733	0.0916	0.0337	0.0404
2	0.1839	0.9197	0.2707	0.6767	0.224	0.4232	0.1465	0.2381	0.0842	0.1247
3	0.0613	0.981	0.1804	0.8571	0.224	0.6472	0.1954	0.4335	0.1404	0.265
4	0.0153	0.9963	0.0902	0.9473	0.168	0.8153	0.1954	0.6288	0.1755	0.4405
5	0.0031	0.9994	0.0361	0.9834	0.1008	0.9161	0.1563	0.7851	0.1755	0.616
6	0.0005	0.9999	0.012	0.9955	0.0504	0.9665	0.1042	0.8893	0.1462	0.7622
7	0.0001	1.0	0.0034	0.9989	0.0216	0.9881	0.0595	0.9489	0.1044	0.8666
8	0.0	1.0	0.0009	0.9998	0.0081	0.9962	0.0298	0.9786	0.0653	0.9319
9	0.0	1.0	0.0002	1.0	0.0027	0.9989	0.0132	0.9919	0.0363	0.9682
10	0.0	1.0	0.0	1.0	0.0008	0.9997	0.0053	0.9972	0.0181	0.9863
11	0.0	1.0	0.0	1.0	0.0002	0.9999	0.0019	0.9991	0.0082	0.9945
12	0.0	1.0	0.0	1.0	0.0001	1.0	0.0006	0.9997	0.0034	0.998
13	0.0	1.0	0.0	1.0	0.0	1.0	0.0002	0.9999	0.0013	0.9993
14	0.0	1.0	0.0	1.0	0.0	1.0	0.0001	1.0	0.0005	0.9998
15	0.0	1.0	0.0	1.0	0.0	1.0	0.0	1.0	0.0002	0.9999
16	0.0	1.0	0.0	1.0	0.0	1.0	0.0	1.0	0.0	1.0

	Λ =6		Λ =7		Λ =8		Λ =9		Λ =10	
k	$p(X=k)$	$p(X\leq k)$	$p(X=k)$	$p(X\leq k)$	$p(X=k)$	$p(X\leq k)$	$p(X=k)$	$p(X\leq k)$	$p(X=k)$	$p(X\leq k)$
0	0.0025	0.0025	0.0009	0.0009	0.0003	0.0003	0.0001	0.0001	0.0	0.0
1	0.0149	0.0174	0.0064	0.0073	0.0027	0.003	0.0011	0.0012	0.0005	0.0005
2	0.0446	0.062	0.0223	0.0296	0.0107	0.0138	0.005	0.0062	0.0023	0.0028
3	0.0892	0.1512	0.0521	0.0818	0.0286	0.0424	0.015	0.0212	0.0076	0.0103
4	0.1339	0.2851	0.0912	0.173	0.0573	0.0996	0.0337	0.055	0.0189	0.0293
5	0.1606	0.4457	0.1277	0.3007	0.0916	0.1912	0.0607	0.1157	0.0378	0.0671
6	0.1606	0.6063	0.149	0.4497	0.1221	0.3134	0.0911	0.2068	0.0631	0.1301
7	0.1377	0.744	0.149	0.5987	0.1396	0.453	0.1171	0.3239	0.0901	0.2202
8	0.1033	0.8472	0.1304	0.7291	0.1396	0.5925	0.1318	0.4557	0.1126	0.3328
9	0.0688	0.9161	0.1014	0.8305	0.1241	0.7166	0.1318	0.5874	0.1251	0.4579
10	0.0413	0.9574	0.071	0.9015	0.0993	0.8159	0.1186	0.706	0.1251	0.583
11	0.0225	0.9799	0.0452	0.9467	0.0722	0.8881	0.097	0.803	0.1137	0.6968
12	0.0113	0.9912	0.0263	0.973	0.0481	0.9362	0.0728	0.8758	0.0948	0.7916
13	0.0052	0.9964	0.0142	0.9872	0.0296	0.9658	0.0504	0.9261	0.0729	0.8645
14	0.0022	0.9986	0.0071	0.9943	0.0169	0.9827	0.0324	0.9585	0.0521	0.9165
15	0.0009	0.9995	0.0033	0.9976	0.009	0.9918	0.0194	0.978	0.0347	0.9513
16	0.0003	0.9998	0.0014	0.999	0.0045	0.9963	0.0109	0.9889	0.0217	0.973
17	0.0001	0.9999	0.0006	0.9996	0.0021	0.9984	0.0058	0.9947	0.0128	0.9857
18	0.0	1.0	0.0002	0.9999	0.0009	0.9993	0.0029	0.9976	0.0071	0.9928
19	0.0	1.0	0.0001	1.0	0.0004	0.9997	0.0014	0.9989	0.0037	0.9965
20	0.0	1.0	0.0	1.0	0.0002	0.9999	0.0006	0.9996	0.0019	0.9984
21	0.0	1.0	0.0	1.0	0.0001	1.0	0.0003	0.9998	0.0009	0.9993
22	0.0	1.0	0.0	1.0	0.0	1.0	0.0001	0.9999	0.0004	0.9997
23	0.0	1.0	0.0	1.0	0.0	1.0	0.0	1.0	0.0002	0.9999
24	0.0	1.0	0.0	1.0	0.0	1.0	0.0	1.0	0.0001	1.0
25	0.0	1.0	0.0	1.0	0.0	1.0	0.0	1.0	0.0	1.0

Pour $\Lambda > 10$, on utilise la loi normale en estimant $p_k = p(X = k)$ par $p(k - 0.5 < X' < k + 0.5)$, avec $X' \sim N(\Lambda, \Lambda)$ suivant une loi normale de mÃªme espérance $\mu = \Lambda$ et mÃªme variance $\sigma^2 = \Lambda$.

2- Loi normale centrée réduite

le tableau donne avec une précision de 10^{-4} les valeurs $F(t)$ de la fonction de répartition de la loi normale centrée réduite,

$$F(t) = p(Z \leq t) = \frac{1}{\sqrt{2\pi}} \int_{-\infty}^{t} e^{-u^2/2}\, du.$$

Si $0 \leq t \leq 3.99$, on place ses deux premiers chiffres en ligne et son troisième en colonne : la valeur de $F(t)$ se trouve à l'intersection. Par exemple, $F(2.14)$ est à l'intersection de la ligne "2.1" et de la colonne "0.04".

Pour t négatif, on utilise la règle $F(-t) = 1 - F(t)$.

	0.0	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.0	0.5	0.504	0.508	0.512	0.516	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	0.591	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	0.648	0.6517
0.4	0.6554	0.6591	0.6628	0.6664	0.67	0.6736	0.6772	0.6808	0.6844	0.6879
0.5	0.6915	0.695	0.6985	0.7019	0.7054	0.7088	0.7123	0.7157	0.719	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	0.758	0.7611	0.7642	0.7673	0.7704	0.7734	0.7764	0.7794	0.7823	0.7852
0.8	0.7881	0.791	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	0.834	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	0.877	0.879	0.881	0.883
1.2	0.8849	0.8869	0.8888	0.8907	0.8925	0.8944	0.8962	0.898	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	0.937	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	0.975	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	0.983	0.9834	0.9838	0.9842	0.9846	0.985	0.9854	0.9857
2.2	0.9861	0.9864	0.9868	0.9871	0.9875	0.9878	0.9881	0.9884	0.9887	0.989
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	0.992	0.9922	0.9925	0.9927	0.9929	0.9931	0.9932	0.9934	0.9936
2.5	0.9938	0.994	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	0.996	0.9961	0.9962	0.9963	0.9964
2.7	0.9965	0.9966	0.9967	0.9968	0.9969	0.997	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	0.998	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	0.999	0.999
3.1	0.999	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	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

3- Loi de Student centrée

si X est une loi de Student
à ν degrés de liberté,

on lit sur la ligne ν et la colonne α

la valeur de $t(\alpha)$ telle que

$$p(\ |X|\ \leq\ t(\alpha)\ ) = 1 - \alpha.$$

$\alpha \quad \rightarrow$	0.2	0.15	0.1	0.075	0.05	0.04	0.03	0.02	0.01	0.005	0.002	0.001
$1-\alpha \rightarrow$	0.8	0.85	0.9	0.925	0.95	0.96	0.97	0.98	0.99	0.995	0.998	0.999
$\downarrow \quad \nu$												
1	3.0777	4.1653	6.3137	8.4489	12.706	15.894	21.205	31.82	63.657	127.32	318.31	636.62
2	1.8856	2.2819	2.92	3.4428	4.3027	4.8487	5.6428	6.9646	9.9248	14.089	22.327	31.599
3	1.6377	1.9243	2.3534	2.6808	3.1824	3.4819	3.896	4.5407	5.8409	7.4533	10.215	12.924
4	1.5332	1.7782	2.1318	2.392	2.7763	2.9983	3.2973	3.7463	4.6022	5.5929	7.1592	8.5812
5	1.4759	1.6994	2.015	2.2423	2.5705	2.7565	3.0028	3.3648	4.0317	4.7722	5.89	6.8617
6	1.4398	1.6502	1.9432	2.151	2.4469	2.6122	2.8289	3.1426	3.7073	4.3164	5.2065	5.9565
7	1.4149	1.6166	1.8946	2.0897	2.3646	2.5167	2.7146	2.9979	3.4994	4.0292	4.7849	5.407
8	1.3968	1.5922	1.8595	2.0458	2.306	2.449	2.6338	2.8964	3.3554	3.8325	4.5006	5.0409
9	1.383	1.5737	1.8331	2.0127	2.2622	2.3984	2.5738	2.8214	3.2498	3.6896	4.2967	4.7807
10	1.3722	1.5592	1.8125	1.987	2.2281	2.3593	2.5275	2.7638	3.1693	3.5814	4.1437	4.5868
11	1.3634	1.5476	1.7959	1.9663	2.201	2.3281	2.4907	2.7181	3.1058	3.4966	4.0247	4.4369
12	1.3562	1.538	1.7823	1.9494	2.1788	2.3027	2.4607	2.681	3.0545	3.4284	3.9296	4.3178
13	1.3502	1.5299	1.7709	1.9354	2.1604	2.2816	2.4358	2.6503	3.0123	3.3725	3.852	4.2208
14	1.345	1.5231	1.7613	1.9235	2.1448	2.2638	2.4149	2.6245	2.9768	3.3257	3.7874	4.1404
15	1.3406	1.5172	1.7531	1.9132	2.1314	2.2485	2.397	2.6025	2.9467	3.286	3.7328	4.0728
16	1.3368	1.5121	1.7459	1.9044	2.1199	2.2354	2.3815	2.5835	2.9208	3.252	3.6862	4.015
17	1.3334	1.5077	1.7396	1.8966	2.1098	2.2238	2.3681	2.5669	2.8982	3.2224	3.6458	3.9651
18	1.3304	1.5037	1.7341	1.8898	2.1009	2.2137	2.3562	2.5524	2.8784	3.1966	3.6105	3.9216
19	1.3277	1.5002	1.7291	1.8837	2.093	2.2047	2.3456	2.5395	2.8609	3.1737	3.5794	3.8834
20	1.3253	1.497	1.7247	1.8783	2.086	2.1967	2.3362	2.528	2.8453	3.1534	3.5518	3.8495
21	1.3232	1.4942	1.7207	1.8734	2.0796	2.1894	2.3278	2.5176	2.8314	3.1352	3.5272	3.8193
22	1.3212	1.4916	1.7171	1.869	2.0739	2.1829	2.3202	2.5083	2.8188	3.1188	3.505	3.7921
23	1.3195	1.4893	1.7139	1.8649	2.0687	2.177	2.3132	2.4999	2.8073	3.104	3.485	3.7676
24	1.3178	1.4871	1.7109	1.8613	2.0639	2.1715	2.3069	2.4922	2.7969	3.0905	3.4668	3.7454
25	1.3163	1.4852	1.7081	1.8579	2.0595	2.1666	2.3011	2.4851	2.7874	3.0782	3.4502	3.7251
26	1.315	1.4834	1.7056	1.8548	2.0555	2.162	2.2958	2.4786	2.7787	3.0669	3.435	3.7066
27	1.3137	1.4817	1.7033	1.8519	2.0518	2.1578	2.2909	2.4727	2.7707	3.0565	3.421	3.6896
28	1.3125	1.4801	1.7011	1.8493	2.0484	2.1539	2.2864	2.4671	2.7633	3.0469	3.4082	3.6739
29	1.3114	1.4787	1.6991	1.8468	2.0452	2.1503	2.2822	2.462	2.7564	3.038	3.3962	3.6594
30	1.3104	1.4774	1.6973	1.8445	2.0423	2.147	2.2783	2.4573	2.75	3.0298	3.3852	3.646
40	1.3031	1.4677	1.6839	1.8281	2.0211	2.1229	2.2503	2.4233	2.7045	2.9712	3.3069	3.551
50	1.2987	1.462	1.6759	1.8184	2.0086	2.1087	2.2338	2.4033	2.6778	2.937	3.2614	3.496
60	1.2958	1.4582	1.6706	1.8119	2.0003	2.0994	2.2229	2.3901	2.6603	2.9146	3.2317	3.4602
70	1.2938	1.4555	1.6669	1.8074	1.9944	2.0927	2.2152	2.3808	2.6479	2.8987	3.2108	3.435
80	1.2922	1.4535	1.6641	1.804	1.9901	2.0878	2.2095	2.3739	2.6387	2.887	3.1953	3.4163
90	1.291	1.4519	1.662	1.8013	1.9867	2.0839	2.205	2.3685	2.6316	2.8779	3.1833	3.4019
100	1.2901	1.4507	1.6602	1.7992	1.984	2.0809	2.2015	2.3642	2.6259	2.8707	3.1737	3.3905
250	1.2849	1.444	1.651	1.7879	1.9695	2.0645	2.1825	2.3414	2.5956	2.8322	3.1232	3.3299
500	1.2832	1.4417	1.6479	1.7842	1.9647	2.0591	2.1763	2.3338	2.5857	2.8195	3.1066	3.3101
1000	1.2824	1.4406	1.6464	1.7823	1.9623	2.0564	2.1732	2.3301	2.5808	2.8133	3.0984	3.3003
2000	1.282	1.4401	1.6456	1.7814	1.9612	2.0551	2.1716	2.3282	2.5783	2.8102	3.0943	3.2954
$+\infty$	1.2816	1.4396	1.6449	1.7805	1.96	2.0538	2.1702	2.3265	2.576	2.8072	3.0905	3.2909

4- Loi du χ^2

si X est une loi du χ^2 à ν degrés de liberté,

on lit sur la ligne n et la colonne α

la valeur de c^2 telle que

$$p(\ X^2\ \geq\ c^2\ ) = \alpha.$$

$\alpha \quad \rightarrow$	0.2	0.15	0.1	0.075	0.05	0.04	0.03	0.02	0.01	0.005	0.002	0.001
$1-\alpha \rightarrow$	0.8	0.85	0.9	0.925	0.95	0.96	0.97	0.98	0.99	0.995	0.998	0.999
$\downarrow \quad \nu$												
1	1.6424	2.0722	2.7054	3.1701	3.8415	4.2179	4.7093	5.4119	6.6349	7.8794	9.5495	10.828
2	3.2189	3.7942	4.6052	5.1805	5.9915	6.4378	7.0131	7.824	9.2103	10.597	12.429	13.816
3	4.6416	5.3171	6.2514	6.9046	7.8147	8.3112	8.9473	9.8374	11.345	12.8379	14.796	16.2659
4	5.9886	6.7449	7.7794	8.4963	9.4877	10.026	10.712	11.6679	13.277	14.86	16.924	18.467
5	7.2893	8.1152	9.2364	10.008	11.070	11.644	12.375	13.388	15.086	16.750	18.907	20.515
6	8.5581	9.4461	10.645	11.466	12.592	13.198	13.968	15.033	16.812	18.548	20.791	22.458
7	9.8033	10.748	12.017	12.883	14.067	14.703	15.509	16.622	18.475	20.278	22.601	24.322
8	11.030	12.027	13.362	14.270	15.507	16.171	17.010	18.168	20.090	21.955	24.352	26.124
9	12.242	13.288	14.684	15.631	16.919	17.608	18.480	19.679	21.666	23.589	26.056	27.877
10	13.442	14.534	15.987	16.971	18.307	19.021	19.922	21.161	23.209	25.188	27.722	29.588
11	14.631	15.767	17.275	18.294	19.675	20.412	21.342	22.618	24.725	26.757	29.354	31.264
12	15.812	16.989	18.549	19.602	21.026	21.785	22.742	24.054	26.217	28.300	30.957	32.909
13	16.985	18.202	19.812	20.897	22.362	23.142	24.125	25.472	27.688	29.819	32.535	34.528
14	18.151	19.406	21.064	22.180	23.685	24.485	25.493	26.873	29.141	31.319	34.091	36.123
15	19.311	20.603	22.307	23.452	24.996	25.816	26.848	28.259	30.578	32.801	35.628	37.697
16	20.465	21.793	23.542	24.716	26.296	27.136	28.191	29.633	32.000	34.267	37.146	39.252
17	21.615	22.977	24.769	25.970	27.587	28.445	29.523	30.995	33.409	35.718	38.648	40.790
18	22.760	24.155	25.989	27.218	28.869	29.745	30.845	32.346	34.805	37.156	40.136	42.312
19	23.900	25.329	27.204	28.458	30.144	31.037	32.158	33.687	36.191	38.582	41.610	43.820
20	25.038	26.498	28.412	29.692	31.410	32.321	33.462	35.020	37.566	39.997	43.072	45.315
21	26.171	27.662	29.615	30.920	32.671	33.597	34.759	36.343	38.932	41.401	44.522	46.797
22	27.301	28.822	30.813	32.142	33.924	34.867	36.049	37.660	40.289	42.796	45.962	48.268
23	28.429	29.979	32.007	33.360	35.172	36.131	37.332	38.968	41.638	44.181	47.391	49.728
24	29.553	31.132	33.196	34.572	36.415	37.389	38.609	40.270	42.980	45.559	48.812	51.179
25	30.675	32.282	34.382	35.780	37.652	38.642	39.880	41.566	44.314	46.928	50.223	52.620
26	31.795	33.429	35.563	36.984	38.885	39.889	41.146	42.856	45.642	48.290	51.627	54.052
27	32.912	34.574	36.741	38.184	40.113	41.132	42.407	44.140	46.963	49.645	53.023	55.476
28	34.027	35.715	37.916	39.380	41.337	42.370	43.662	45.419	48.278	50.993	54.411	56.892
29	35.139	36.854	39.087	40.573	42.557	43.604	44.913	46.693	49.588	52.336	55.792	58.301
30	36.250	37.990	40.256	41.762	43.773	44.834	46.160	47.962	50.892	53.672	57.167	59.703
40	47.269	49.244	51.805	53.501	55.758	56.946	58.428	60.436	63.691	66.766	70.618	73.402
50	58.164	60.346	63.167	65.030	67.505	68.804	70.423	72.613	76.154	79.490	83.657	86.661
60	68.972	71.341	74.397	76.411	79.082	80.482	82.225	84.580	88.379	91.952	96.404	99.607
70	79.715	82.255	85.527	87.680	90.531	92.024	93.881	96.388	100.43	104.21	108.93	112.32
80	90.405	93.106	96.578	98.861	101.88	103.46	105.42	108.07	112.33	116.32	121.28	124.84
90	101.05	103.90	107.57	109.97	113.15	114.81	116.87	119.65	124.12	128.30	133.49	137.21
100	111.67	114.66	118.50	121.02	124.34	126.08	128.24	131.14	135.81	140.17	145.58	149.45
250	268.60	273.19	279.05	282.87	287.88	290.49	293.71	298.04	304.94	311.35	319.23	324.83
500	526.40	532.80	540.93	546.21	553.13	556.71	561.14	567.07	576.49	585.21	595.88	603.45
1000	1037.4	1046.4	1057.7	1065.1	1074.7	1079.7	1085.8	1094.0	1107.0	1118.9	1133.6	1143.9
2500	2559.3	2573.3	2591.0	2602.5	2617.4	2625.2	2634.7	2647.4	2667.4	2685.9	2708.4	2724.2
5000	5084.0	5103.7	5128.6	5144.7	5165.6	5176.4	5189.8	5207.5	5235.6	5261.3	5292.7	5314.7