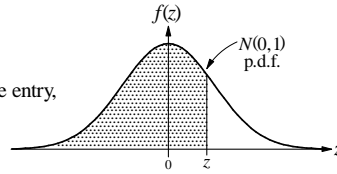


Figure 5.4. PROBABILITIES FOR THE STANDARD NORMAL DISTRIBUTION [N(0, 1)]

IN THE MAIN UPPER TABLE:

$\Pr[-\infty < N(0, 1) \leq z\text{-value from table margins}] = \text{Table entry,}$
 e.g., $\Pr[-\infty < N(0, 1) \leq 0.00] = 0.5000^0 = 0.5;$



Notation:

$F(0.01) = .5040^{-1} = 0.50399$
 $F(0.05) = .5199^4 = 0.51994$
 $F(2.33) = .920097 = 0.990097,$ where $F(z)$ is the $N(0, 1)$ c.d.f.
 $F(z) = \int_{-\infty}^z f(t) dt = \int_{-\infty}^z \frac{1}{\sqrt{2\pi}} e^{-t^2/2} dt.$

THE SMALLER LOWER TABLE provides more accurate and convenient inverse lookup for selected probabilities in the interval 0.5 to 0.999 9995.

z	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
0.0	.5000 ⁰	.5040 ⁻¹	.5080 ⁻²	.5120 ⁻³	.5160 ⁻⁵	.5199 ⁴	.5239 ²	.5279 ⁰	.5319 ⁻²	.5359 ⁻⁴
0.1	.5398 ³	.5438 ⁰	.5478 ⁻⁴	.5517 ²	.5557 ⁻³	.5596 ²	.5636 ⁻⁴	.5675 ⁻¹	.5714 ²	.5753 ⁵
0.2	.5793 ⁻⁴	.5832 ⁻³	.5871 ⁻⁴	.5910 ⁻⁵	.5948 ³	.5987 ¹	.6026 ⁻³	.6064 ²	.6103 ⁻⁴	.6141 ⁻¹
0.3	.6179 ¹	.6217 ²	.6255 ⁻²	.6293 ⁰	.6331 ⁻³	.6368 ³	.6406 ⁻²	.6443 ¹	.6480 ³	.6517 ³
0.4	.6554 ²	.6591 ⁰	.6628 ⁻⁴	.6664 ⁰	.6700 ³	.6736 ⁴	.6772 ⁴	.6808 ²	.6844 ⁻¹	.6879 ³
0.5	.6915 ⁻⁴	.6950 ⁻³	.6985 ⁻³	.7019 ⁴	.7054 ⁰	.7088 ⁴	.7123 ⁻⁴	.7157 ⁻⁴	.7190 ⁴	.7224 ⁰
0.6	.7257 ⁵	.7291 ⁻³	.7324 ⁻³	.7357 ⁻⁵	.7389 ¹	.7422 ⁻⁵	.7454 ⁻³	.7486 ⁻³	.7517 ⁵	.7549 ⁰
0.7	.7580 ⁴	.7611 ⁵	.7642 ⁴	.7673 ⁰	.7704 ⁻⁵	.7734 ⁻³	.7764 ⁻³	.7794 ⁻⁵	.7823 ⁰	.7852 ⁴
0.8	.7881 ⁴	.7910 ³	.7939 ⁻¹	.7967 ³	.7995 ³	.8023 ⁴	.8051 ¹	.8078 ⁵	.8106 ⁻³	.8133 ⁻³
0.9	.8159 ⁴	.8186 ⁻¹	.8212 ¹	.8238 ¹	.8264 ⁻¹	.8289 ⁴	.8315 ⁻³	.8340 ⁻²	.8365 ⁻⁴	.8389 ¹
1.0	.8413 ⁴	.8438 ⁻⁵	.8461 ⁴	.8485 ⁻¹	.8508 ³	.8531 ⁴	.8554 ³	.8577 ⁻¹	.8599 ³	.8621 ⁴
1.1	.8643 ³	.8665 ⁰	.8686 ⁴	.8708 ⁻⁴	.8729 ⁻⁴	.8749 ³	.8770 ⁻²	.8790 ⁰	.8810 ⁰	.8830 ⁻²
1.2	.8849 ³	.8869 ⁻⁴	.8888 ⁻³	.8907 ⁻⁵	.8925 ¹	.8944 ⁻⁵	.8962 ⁻³	.8980 ⁻⁴	.8997 ³	.9015 ⁻³
1.3	.9032 ⁰	.9049 ⁰	.9066 ⁻²	.9082 ⁴	.9099 ⁻²	.9115 ⁻¹	.9131 ⁻¹	.9147 ⁻⁴	.9162 ¹	.9177 ⁴
1.4	.9192 ⁴	.9207 ³	.9222 ⁰	.9236 ⁴	.9251 ⁻³	.9265 ⁻³	.9279 ⁻⁵	.9292 ²	.9306 ⁻⁴	.9319 ⁻¹
1.5	.9332 ⁻¹	.9345 ⁻²	.9357 ⁴	.9370 ⁻¹	.9382 ²	.9394 ³	.9406 ²	.9418 ⁻¹	.9429 ⁵	.9441 ⁻²
1.6	.9452 ⁰	.9463 ⁰	.9474 ⁻²	.9484 ⁵	.9495 ⁰	.9505 ³	.9515 ⁴	.9525 ⁴	.9535 ²	.9545 ⁻¹
1.7	.9554 ³	.9564 ⁻³	.9573 ⁻²	.9582 ⁻²	.9591 ⁻³	.9599 ⁴	.9608 ⁰	.9616 ⁴	.9625 ⁻⁴	.9633 ⁻³
1.8	.9641 ⁻³	.9649 ⁻⁵	.9656 ⁻²	.9664 ⁻²	.9671 ²	.9678 ⁴	.9686 ⁻⁴	.9693 ⁻⁴	.9699 ⁵	.9706 ²
1.9	.9713 ⁻²	.9719 ³	.9726 ⁻³	.9732 ⁰	.9738 ¹	.9744 ¹	.9750 ⁰	.9756 ⁻²	.9761 ⁵	.9767 ⁰
2.0	.9772 ⁵	.9778 ⁻²	.9783 ¹	.9788 ²	.9793 ²	.9798 ²	.9803 ⁰	.9808 ⁻³	.9812 ⁴	.9817 ⁻¹
2.1	.9821 ⁴	.9826 ⁻³	.9830 ⁰	.9834 ¹	.9838 ²	.9842 ²	.9846 ¹	.9850 ⁰	.9854 ⁻³	.9857 ⁴
2.2	.9861 ⁰	.9865 ⁵	.9868 ⁻¹	.9871 ³	.9875 ⁻⁵	.9878 ⁻²	.9881 ⁻¹	.9884 ⁰	.9887 ⁰	.9890 ⁻¹
2.3	.9893 ⁻²	.9896 ⁻⁴	.9898 ³	.920097	.920358	.920613	.920863	.921106	.921344	.921576
2.4	.921802	.922024	.922240	.922451	.922656	.922857	.923053	.923244	.923431	.923613
2.5	.923790	.923963	.924132	.924297	.924457	.924614	.924766	.924915	.925060	.925201
2.6	.925339	.925473	.925604	.925731	.925855	.925975	.926093	.926207	.926319	.926427
2.7	.926533	.926636	.926736	.926833	.926928	.927020	.927110	.927197	.927282	.927365
2.8	.927445	.927523	.927599	.927673	.927744	.927814	.927882	.927948	.928012	.928074
2.9	.928134	.928193	.928250	.928305	.928359	.928411	.928462	.928511	.928559	.928605
3.0	.928650	.928694	.928736	.928777	.928817	.928856	.928893	.928930	.928965	.928999
3.1	.9290324	.9290646	.9290957	.9291260	.9291553	.9291836	.9292112	.9292378	.9292636	.9292886
3.2	.9293129	.9293363	.9293590	.9293810	.9294024	.9294230	.9294429	.9294623	.9294810	.9294991
3.3	.9295166	.9295335	.9295499	.9295658	.9295811	.9295959	.9296103	.9296242	.9296376	.9296505
3.4	.9296631	.9296752	.9296869	.9296982	.9297091	.9297197	.9297299	.9297398	.9297493	.9297585
3.5	.9297674	.9297759	.9297842	.9297922	.9297999	.9298074	.9298146	.9298215	.9298282	.9298347
3.6	.9298409	.9298469	.9298527	.9298583	.9298637	.9298689	.9298739	.9298787	.9298834	.9298879
3.7	.9298922	.9298964	.92990039	.92990426	.92990799	.92991158	.92991504	.92991838	.92992159	.92992468
3.8	.92992765	.92993052	.92993327	.92993593	.92993848	.92994094	.92994331	.92994558	.92994777	.92994988
3.9	.92995190	.92995385	.92995573	.92995753	.92995926	.92996092	.92996253	.92996406	.92996554	.92996696
4.0	.92996833	.92996964	.92997090	.92997211	.92997327	.92997439	.92997546	.92997649	.92997748	.92997843
5	.967134									
6	.990134									
7	.9918720									
8	.9953779									
9	.9988872									
10	.9232380									
12	.9328224									
14	.9442207									
16	.9573611									
18	.9720259									
20	.9887246									
25	.99376943									
30	.9975093									
40	.9996344									
50	.99998919									
60	.999998762									.99999935
70	.99999994577									.999999995
80	.99999999976									.99999999995
100	.999999999998656									.999999999999995

INVERSE N(0,1) C.d.f., giving z for a specified F(z) ≥ 0.5

.50	0	.60	.2533	.70	.5244	.80	.8416	.90	1.2816	.990	2.3263
.51	.02507	.61	.2793	.71	.5534	.81	.8779	.91	1.3408	.991	2.3656
.52	.05015	.62	.3055	.72	.5828	.82	.9154	.92	1.4051	.992	2.4089
.53	.07527	.63	.3319	.73	.6128	.83	.9542	.93	1.4758	.993	2.4573
.54	.1004	.64	.3585	.74	.6433	.84	.9945	.94	1.5548	.994	2.5121
.55	.1257	.65	.3853	.75	.6745	.85	1.0364	.95	1.6449	.995	2.5758
.56	.1510	.66	.4125	.76	.7063	.86	1.0803	.96	1.7507	.996	2.6521
.57	.1764	.67	.4399	.77	.7388	.87	1.1264	.97	1.8808	.997	2.7478
.58	.2019	.68	.4677	.78	.7722	.88	1.1750	.975	1.9600	.998	2.8782
.59	.2275	.69	.4959	.79	.8064	.89	1.2265	.98	2.0537	.999	3.0902

PROBABILITIES FOR THE STANDARD NORMAL DISTRIBUTION $N(0, 1)$

z	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09	z	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
-3.8	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	0.0	.5000	.5040	.5080	.5120	.5160	.5199	.5239	.5279	.5319	.5359
-3.7	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	0.1	.5398	.5438	.5478	.5517	.5557	.5596	.5636	.5675	.5714	.5753
-3.6	.0002	.0002	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0001	0.2	.5793	.5832	.5871	.5910	.5948	.5987	.6026	.6064	.6103	.6141
-3.5	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	.0002	0.3	.6179	.6217	.6255	.6293	.6331	.6368	.6406	.6443	.6480	.6517
-3.4	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0002	0.4	.6554	.6591	.6628	.6664	.6700	.6736	.6772	.6808	.6844	.6879
-3.3	.0005	.0005	.0005	.0004	.0004	.0004	.0004	.0004	.0004	.0003	0.5	.6915	.6950	.6985	.7019	.7054	.7088	.7123	.7157	.7190	.7224
-3.3	.0007	.0007	.0006	.0006	.0006	.0006	.0006	.0005	.0005	.0005	0.6	.7257	.7291	.7324	.7357	.7389	.7422	.7454	.7486	.7517	.7549
-3.1	.0010	.0009	.0009	.0009	.0008	.0008	.0008	.0008	.0007	.0007	0.7	.7580	.7611	.7642	.7673	.7704	.7734	.7764	.7794	.7823	.7852
-3.0	.0013	.0013	.0013	.0012	.0012	.0011	.0011	.0011	.0010	.0010	0.8	.7881	.7910	.7939	.7967	.7995	.8023	.8051	.8078	.8106	.8133
-2.9	.0019	.0018	.0018	.0017	.0016	.0016	.0015	.0015	.0014	.0014	0.9	.8159	.8186	.8212	.8238	.8264	.8289	.8315	.8340	.8365	.8389
-2.8	.0026	.0025	.0024	.0023	.0023	.0022	.0021	.0021	.0020	.0019	1.0	.8413	.8438	.8461	.8485	.8508	.8531	.8554	.8577	.8599	.8621
-2.7	.0035	.0034	.0033	.0032	.0031	.0030	.0029	.0028	.0027	.0026	1.1	.8643	.8665	.8686	.8708	.8729	.8749	.8770	.8790	.8810	.8830
-2.6	.0047	.0045	.0044	.0043	.0041	.0040	.0039	.0038	.0037	.0036	1.2	.8849	.8869	.8888	.8907	.8925	.8944	.8962	.8980	.8997	.9015
-2.5	.0062	.0060	.0059	.0057	.0055	.0054	.0052	.0051	.0049	.0048	1.3	.9032	.9049	.9066	.9082	.9099	.9115	.9131	.9147	.9162	.9177
-2.4	.0082	.0080	.0078	.0075	.0073	.0071	.0069	.0068	.0066	.0064	1.4	.9192	.9207	.9222	.9236	.9251	.9265	.9279	.9292	.9306	.9319
-2.3	.0107	.0104	.0102	.0099	.0096	.0094	.0091	.0089	.0087	.0084	1.5	.9332	.9345	.9357	.9370	.9382	.9394	.9406	.9418	.9429	.9441
-2.2	.0139	.0136	.0132	.0129	.0125	.0122	.0119	.0116	.0113	.0110	1.6	.9452	.9463	.9474	.9484	.9495	.9505	.9515	.9525	.9535	.9545
-2.1	.0179	.0174	.0170	.0166	.0162	.0158	.0154	.0150	.0146	.0143	1.7	.9554	.9564	.9573	.9582	.9591	.9599	.9608	.9616	.9625	.9633
N left half -2.0	.0228	.0222	.0217	.0212	.0207	.0202	.0197	.0192	.0188	.0183	1.8	.9641	.9649	.9656	.9664	.9671	.9678	.9686	.9693	.9699	.9706
-1.9	.0287	.0281	.0274	.0268	.0262	.0256	.0250	.0244	.0239	.0233	1.9	.9713	.9719	.9726	.9732	.9738	.9744	.9750	.9756	.9761	.9767
-1.8	.0359	.0351	.0344	.0336	.0329	.0322	.0314	.0307	.0301	.0294	2.0	.9772	.9778	.9783	.9788	.9793	.9798	.9803	.9808	.9812	.9817
-1.7	.0446	.0436	.0427	.0418	.0409	.0401	.0392	.0384	.0375	.0367	2.1	.9821	.9826	.9830	.9834	.9838	.9842	.9846	.9850	.9854	.9857
-1.6	.0548	.0537	.0526	.0516	.0505	.0495	.0485	.0475	.0465	.0455	2.2	.9861	.9864	.9868	.9871	.9875	.9878	.9881	.9884	.9887	.9890
-1.5	.0668	.0655	.0643	.0630	.0618	.0606	.0594	.0582	.0571	.0559	2.3	.9893	.9896	.9898	.9901	.9904	.9906	.9909	.9911	.9913	.9916
-1.4	.0808	.0793	.0778	.0764	.0749	.0735	.0721	.0708	.0694	.0681	2.4	.9918	.9920	.9922	.9925	.9927	.9929	.9931	.9932	.9934	.9936
-1.3	.0968	.0951	.0934	.0918	.0901	.0885	.0869	.0853	.0838	.0823	2.5	.9938	.9940	.9941	.9943	.9945	.9946	.9948	.9949	.9951	.9952
-1.2	.1151	.1131	.1112	.1093	.1075	.1056	.1038	.1020	.1003	.0985	2.6	.9953	.9955	.9956	.9957	.9959	.9960	.9961	.9962	.9963	.9964
-1.1	.1357	.1335	.1314	.1292	.1271	.1251	.1230	.1210	.1190	.1170	2.7	.9965	.9966	.9967	.9968	.9969	.9970	.9971	.9972	.9973	.9974
-1.0	.1587	.1562	.1539	.1515	.1492	.1469	.1446	.1423	.1401	.1379	2.8	.9974	.9975	.9976	.9977	.9977	.9978	.9979	.9979	.9980	.9981
-0.9	.1841	.1814	.1788	.1762	.1736	.1711	.1685	.1660	.1635	.1611	2.9	.9981	.9982	.9982	.9983	.9984	.9984	.9985	.9985	.9986	.9986
-0.8	.2119	.2090	.2061	.2033	.2005	.1977	.1949	.1922	.1894	.1867	3.0	.9987	.9987	.9987	.9988	.9988	.9989	.9989	.9989	.9990	.9990
-0.7	.2420	.2389	.2358	.2327	.2296	.2266	.2236	.2206	.2177	.2148	3.1	.9990	.9991	.9991	.9991	.9992	.9992	.9992	.9992	.9993	.9993
-0.6	.2743	.2709	.2676	.2643	.2611	.2578	.2546	.2514	.2483	.2451	3.2	.9993	.9993	.9994	.9994	.9994	.9994	.9994	.9995	.9995	.9995
-0.5	.3085	.3050	.3015	.2981	.2946	.2912	.2877	.2843	.2810	.2776	3.3	.9995	.9995	.9995	.9996	.9996	.9996	.9996	.9996	.9996	.9997
-0.4	.3446	.3409	.3372	.3336	.3300	.3264	.3228	.3192	.3156	.3121	3.4	.9997	.9997	.9997	.9997	.9997	.9997	.9997	.9997	.9997	.9998
-0.3	.3821	.3783	.3745	.3707	.3669	.3632	.3594	.3557	.3520	.3483	3.5	.9998	.9998	.9998	.9998	.9998	.9998	.9998	.9998	.9998	.9998
-0.2	.4207	.4168	.4129	.4090	.4052	.4013	.3974	.3936	.3897	.3859	3.6	.9998	.9998	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999
-0.1	.4602	.4562	.4522	.4483	.4443	.4404	.4364	.4325	.4286	.4247	3.7	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999
-0.0	.5000	.4960	.4920	.4880	.4840	.4801	.4761	.4721	.4681	.4641	3.8	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999	.9999
z	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09	z	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09

N
right half