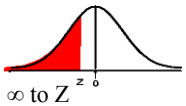
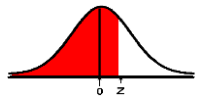
The cumulative Standard Normal distribution

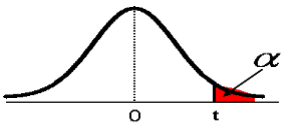




Entry represented area under the cumulative standardized normal distribution from - ∞ to Z

	Cumulative Probabilities											Cumulative Probabilities									
Z	**0.00**	**0.01**	**0.02**	**0.03**	**0.04**	**0.05**	**0.06**	**0.07**	**0.08**	**0.09**	**Z**	**0.00**	**0.01**	**0.02**	**0.03**	**0.04**	**0.05**	**0.06**	**0.07**	**0.08**	**0.09**
−3.0	0.0013	0.0013	0.0013	0.0012	0.0012	0.0011	0.0011	0.0011	0.0010	0.0010	0.0	0.5000	0.5040	0.5080	0.5120	0.5160	0.5199	0.5239	0.5279	0.5319	0.5359
−2.9	0.0019	0.0018	0.0018	0.0017	0.0016	0.0016	0.0015	0.0015	0.0014	0.0014	0.1	0.5398	0.5438	0.5478	0.5517	0.5557	0.5596	0.5636	0.5675	0.5714	0.5753
−2.8	0.0026	0.0025	0.0024	0.0023	0.0023	0.0022	0.0021	0.0021	0.0020	0.0019	0.2	0.5793	0.5832	0.5871	0.5910	0.5948	0.5987	0.6026	0.6064	0.6103	0.6141
−2.7	0.0035	0.0034	0.0033	0.0032	0.0031	0.0030	0.0029	0.0028	0.0027	0.0026	0.3	0.6179	0.6217	0.6255	0.6293	0.6331	0.6368	0.6406	0.6443	0.6480	0.6517
−2.6	0.0047	0.0045	0.0044	0.0043	0.0041	0.0040	0.0039	0.0038	0.0037	0.0036	0.4	0.6554	0.6591	0.6628	0.6664	0.6700	0.6736	0.6772	0.6808	0.6844	0.6879
−2.5	0.0062	0.0060	0.0059	0.0057	0.0055	0.0054	0.0052	0.0051	0.0049	0.0048	0.5	0.6915	0.6950	0.6985	0.7019	0.7054	0.7088	0.7123	0.7157	0.7190	0.7224
−2.4	0.0082	0.0080	0.0078	0.0075	0.0073	0.0071	0.0069	0.0068	0.0066	0.0064	0.6	0.7257	0.7291	0.7324	0.7357	0.7389	0.7422	0.7454	0.7486	0.7517	0.7549
−2.3	0.0107	0.0104	0.0102	0.0099	0.0096	0.0094	0.0091	0.0089	0.0087	0.0084	0.7	0.7580	0.7611	0.7642	0.7673	0.7704	0.7734	0.7764	0.7794	0.7823	0.7852
−2.2	0.0139	0.0136	0.0132	0.0129	0.0125	0.0122	0.0119	0.0116	0.0113	0.0110	0.8	0.7881	0.7910	0.7939	0.7967	0.7995	0.8023	0.8051	0.8078	0.8106	0.8133
−2.1	0.0179	0.0174	0.0170	0.0166	0.0162	0.0158	0.0154	0.0150	0.0146	0.0143	0.9	0.8159	0.8186	0.8212	0.8238	0.8264	0.8289	0.8315	0.8340	0.8365	0.8389
−2.0	0.0228	0.0222	0.0217	0.0212	0.0207	0.0202	0.0197	0.0192	0.0188	0.0183	1.0	0.8413	0.8438	0.8461	0.8485	0.8508	0.8531	0.8554	0.8577	0.8599	0.8621
−1.9	0.0287	0.0281	0.0274	0.0268	0.0262	0.0256	0.0250	0.0244	0.0239	0.0233	1.1	0.8643	0.8665	0.8686	0.8708	0.8729	0.8749	0.8770	0.8790	0.8810	0.8830
−1.8	0.0359	0.0351	0.0344	0.0336	0.0329	0.0322	0.0314	0.0307	0.0301	0.0294	1.2	0.8849	0.8869	0.8888	0.8907	0.8925	0.8944	0.8962	0.8980	0.8997	0.9015
−1.7	0.0446	0.0436	0.0427	0.0418	0.0409	0.0401	0.0392	0.0384	0.0375	0.0367	1.3	0.9032	0.9049	0.9066	0.9082	0.9099	0.9115	0.9131	0.9147	0.9162	0.9177
−1.6	0.0548	0.0537	0.0526	0.0516	0.0505	0.0495	0.0485	0.0475	0.0465	0.0455	1.4	0.9192	0.9207	0.9222	0.9236	0.9251	0.9265	0.9279	0.9292	0.9306	0.9319
−1.5	0.0668	0.0655	0.0643	0.0630	0.0618	0.0606	0.0594	0.0582	0.0571	0.0559	1.5	0.9332	0.9345	0.9357	0.9370	0.9382	0.9394	0.9406	0.9418	0.9429	0.9441
−1.4	0.0808	0.0793	0.0778	0.0764	0.0749	0.0735	0.0721	0.0708	0.0694	0.0681	1.6	0.9452	0.9463	0.9474	0.9484	0.9495	0.9505	0.9515	0.9525	0.9535	0.9545
−1.3	0.0968	0.0951	0.0934	0.0918	0.0901	0.0885	0.0869	0.0853	0.0838	0.0823	1.7	0.9554	0.9564	0.9573	0.9582	0.9591	0.9599	0.9608	0.9616	0.9625	0.9633
−1.2	0.1151	0.1131	0.1112	0.1093	0.1075	0.1056	0.1038	0.1020	0.1003	0.0985	1.8	0.9641	0.9649	0.9656	0.9664	0.9671	0.9678	0.9686	0.9693	0.9699	0.9706
−1.1	0.1357	0.1335	0.1314	0.1292	0.1271	0.1251	0.1230	0.1210	0.1190	0.1170	1.9	0.9713	0.9719	0.9726	0.9732	0.9738	0.9744	0.9750	0.9756	0.9761	0.9767
−1.0	0.1587	0.1562	0.1539	0.1515	0.1492	0.1469	0.1446	0.1423	0.1401	0.1379	2.0	0.9772	0.9778	0.9783	0.9788	0.9793	0.9798	0.9803	0.9808	0.9812	0.9817
−0.9	0.1841	0.1814	0.1788	0.1762	0.1736	0.1711	0.1685	0.1660	0.1635	0.1611	2.1	0.9821	0.9826	0.9830	0.9834	0.9838	0.9842	0.9846	0.9850	0.9854	0.9857
−0.8	0.2119	0.2090	0.2061	0.2033	0.2005	0.1977	0.1949	0.1922	0.1894	0.1867	2.2	0.9861	0.9864	0.9868	0.9871	0.9875	0.9878	0.9881	0.9884	0.9887	0.9890
−0.7	0.2420	0.2389	0.2358	0.2327	0.2296	0.2266	0.2236	0.2206	0.2177	0.2148	2.3	0.9893	0.9896	0.9898	0.9901	0.9904	0.9906	0.9909	0.9911	0.9913	0.9916
−0.6	0.2743	0.2709	0.2676	0.2643	0.2611	0.2578	0.2546	0.2514	0.2483	0.2451	2.4	0.9918	0.9920	0.9922	0.9925	0.9927	0.9929	0.9931	0.9932	0.9934	0.9936
−0.5	0.3085	0.3050	0.3015	0.2981	0.2946	0.2912	0.2877	0.2843	0.2810	0.2776	2.5	0.9938	0.9940	0.9941	0.9943	0.9945	0.9946	0.9948	0.9949	0.9951	0.9952
−0.4	0.3446	0.3409	0.3372	0.3336	0.3300	0.3264	0.3228	0.3192	0.3156	0.3121	2.6	0.9953	0.9955	0.9956	0.9957	0.9959	0.9960	0.9961	0.9962	0.9963	0.9964
−0.3	0.3821	0.3783	0.3745	0.3707	0.3669	0.3632	0.3594	0.3557	0.3520	0.3483	2.7	0.9965	0.9966	0.9967	0.9968	0.9969	0.9970	0.9971	0.9972	0.9973	0.9974
−0.2	0.4207	0.4168	0.4129	0.4090	0.4052	0.4013	0.3974	0.3936	0.3897	0.3859	2.8	0.9974	0.9975	0.9976	0.9977	0.9977	0.9978	0.9979	0.9979	0.9980	0.9981
−0.1	0.4602	0.4562	0.4522	0.4483	0.4443	0.4404	0.4364	0.4325	0.4286	0.4247	2.9	0.9981	0.9982	0.9982	0.9983	0.9984	0.9984	0.9985	0.9985	0.9986	0.9986
−0.0	0.5000	0.4960	0.4920	0.4880	0.4840	0.4801	0.4761	0.4721	0.4681	0.4641	3.0	0.9987	0.9987	0.9987	0.9988	0.9988	0.9989	0.9989	0.9989	0.9990	0.9990

For a particular number of degrees of freedom, entry represents the critical value of corresponding to a specified upper – tail area (α)



	Upper Tail Areas									
v ***(d.f.)***	**0.45**	**0.35**	**0.25**	**0.15**	**0.1**	**0.05**	**0.035**	**0.025**	**0.01**	**0.005**
1	0.1584	0.5095	1.0000	1.9626	3.0777	6.3138	9.0579	12.7062	31.8205	63.6567
2	0.1421	0.4447	0.8165	1.3862	1.8856	2.9200	3.5782	4.3027	6.9646	9.9248
3	0.1366	0.4242	0.7649	1.2498	1.6377	2.3534	2.7626	3.1824	4.5407	5.8409
4	0.1338	0.4142	0.7407	1.1896	1.5332	2.1318	2.4559	2.7764	3.7469	4.6041
5	0.1322	0.4082	0.7267	1.1558	1.4759	2.0150	2.2974	2.5706	3.3649	4.0321
6	0.1311	0.4043	0.7176	1.1342	1.4398	1.9432	2.2011	2.4469	3.1427	3.7074
7	0.1303	0.4015	0.7111	1.1192	1.4149	1.8946	2.1365	2.3646	2.9980	3.4995
8	0.1297	0.3995	0.7064	1.1081	1.3968	1.8595	2.0902	2.3060	2.8965	3.3554
9	0.1293	0.3979	0.7027	1.0997	1.3830	1.8331	2.0554	2.2622	2.8214	3.2498
10	0.1289	0.3966	0.6998	1.0931	1.3722	1.8125	2.0283	2.2281	2.7638	3.1693
11	0.1286	0.3956	0.6974	1.0877	1.3634	1.7959	2.0067	2.2010	2.7181	3.1058
12	0.1283	0.3947	0.6955	1.0832	1.3562	1.7823	1.9889	2.1788	2.6810	3.0545
13	0.1281	0.3940	0.6938	1.0795	1.3502	1.7709	1.9742	2.1604	2.6503	3.0123
14	0.1280	0.3933	0.6924	1.0763	1.3450	1.7613	1.9617	2.1448	2.6245	2.9768
15	0.1278	0.3928	0.6912	1.0735	1.3406	1.7531	1.9509	2.1314	2.6025	2.9467
16	0.1277	0.3923	0.6901	1.0711	1.3368	1.7459	1.9417	2.1199	2.5835	2.9208
17	0.1276	0.3919	0.6892	1.0690	1.3334	1.7396	1.9335	2.1098	2.5669	2.8982
18	0.1274	0.3915	0.6884	1.0672	1.3304	1.7341	1.9264	2.1009	2.5524	2.8784
19	0.1274	0.3912	0.6876	1.0655	1.3277	1.7291	1.9200	2.0930	2.5395	2.8609
20	0.1273	0.3909	0.6870	1.0640	1.3253	1.7247	1.9143	2.0860	2.5280	2.8453
21	0.1272	0.3906	0.6864	1.0627	1.3232	1.7207	1.9092	2.0796	2.5176	2.8314
22	0.1271	0.3904	0.6858	1.0614	1.3212	1.7171	1.9045	2.0739	2.5083	2.8188
23	0.1271	0.3902	0.6853	1.0603	1.3195	1.7139	1.9003	2.0687	2.4999	2.8073
24	0.1270	0.3900	0.6848	1.0593	1.3178	1.7109	1.8965	2.0639	2.4922	2.7969
25	0.1269	0.3898	0.6844	1.0584	1.3163	1.7081	1.8929	2.0595	2.4851	2.7874
26	0.1269	0.3896	0.6840	1.0575	1.3150	1.7056	1.8897	2.0555	2.4786	2.7787
27	0.1268	0.3894	0.6837	1.0567	1.3137	1.7033	1.8867	2.0518	2.4727	2.7707
28	0.1268	0.3893	0.6834	1.0560	1.3125	1.7011	1.8839	2.0484	2.4671	2.7633
29	0.1268	0.3892	0.6830	1.0553	1.3114	1.6991	1.8813	2.0452	2.4620	2.7564
30	0.1267	0.3890	0.6828	1.0547	1.3104	1.6973	1.8789	2.0423	2.4573	2.7500
32	0.1267	0.3888	0.6822	1.0535	1.3086	1.6939	1.8746	2.0369	2.4487	2.7385
34	0.1266	0.3886	0.6818	1.0525	1.3070	1.6909	1.8708	2.0322	2.4411	2.7284
36	0.1266	0.3884	0.6814	1.0516	1.3055	1.6883	1.8674	2.0281	2.4345	2.7195
38	0.1265	0.3882	0.6810	1.0508	1.3042	1.6860	1.8644	2.0244	2.4286	2.7116
40	0.1265	0.3881	0.6807	1.0500	1.3031	1.6839	1.8617	2.0211	2.4233	2.7045
42	0.1264	0.3880	0.6804	1.0494	1.3020	1.6820	1.8593	2.0181	2.4185	2.6981
44	0.1264	0.3878	0.6801	1.0488	1.3011	1.6802	1.8571	2.0154	2.4141	2.6923
46	0.1264	0.3877	0.6799	1.0483	1.3002	1.6787	1.8551	2.0129	2.4102	2.6870
48	0.1263	0.3876	0.6796	1.0478	1.2994	1.6772	1.8532	2.0106	2.4066	2.6822
50	0.1263	0.3875	0.6794	1.0473	1.2987	1.6759	1.8516	2.0086	2.4033	2.6778
60	0.1262	0.3872	0.6786	1.0455	1.2958	1.6706	1.8448	2.0003	2.3901	2.6603
70	0.1261	0.3869	0.6780	1.0442	1.2938	1.6669	1.8401	1.9944	2.3808	2.6479
80	0.1261	0.3867	0.6776	1.0432	1.2922	1.6641	1.8365	1.9901	2.3739	2.6387
90	0.1260	0.3866	0.6772	1.0424	1.2910	1.6620	1.8337	1.9867	2.3685	2.6316