

5.3.2: Table of Critical Values of z

Table 5.3.2.1 shows **negative** z-scores, their probability (p-value), and percentage of scores that fall *below* that probability (p-value). Table 5.3.2.2 shows **positive** z-scores, their probability (p-value), and percentage of scores that fall *below* that probability (p-value) . If this table is too unwieldy, here is a [PDF of a z-score table](#) with only three columns (z-score, p-value, percent) with more than 600 rows of z-scores (instead of Table 5.3.2.1).

Table 15.3.2.1: Negative z-Scores. (CC-BY-SA; modified by Michelle Oja from [Jsmura](#) via [Wikimedia Commons](#))

z-Score	p-value	% Below
-3.00	0.0014	0.14%
-2.99	0.0014	0.14%
-2.98	0.0014	0.14%
-2.97	0.0015	0.15%
-2.96	0.0015	0.15%
-2.95	0.0016	0.16%
-2.94	0.0016	0.16%
-2.93	0.0017	0.17%
-2.92	0.0018	0.18%
-2.91	0.0018	0.18%
-2.90	0.0019	0.19%
-2.89	0.0019	0.19%
-2.88	0.0020	0.20%
-2.87	0.0021	0.21%
-2.86	0.0021	0.21%
-2.85	0.0022	0.22%
-2.84	0.0023	0.23%
-2.83	0.0023	0.23%
-2.82	0.0024	0.24%
-2.81	0.0025	0.25%
-2.80	0.0026	0.26%
-2.79	0.0026	0.26%
-2.78	0.0027	0.27%
-2.77	0.0028	0.28%
-2.76	0.0029	0.29%
-2.75	0.0030	0.30%
-2.74	0.0031	0.31%
-2.73	0.0032	0.32%
-2.72	0.0033	0.33%
-2.71	0.0034	0.34%
-2.70	0.0035	0.35%
-2.69	0.0036	0.36%
-2.68	0.0037	0.37%
-2.67	0.0038	0.38%
-2.66	0.0039	0.39%
-2.65	0.0040	0.40%

z-Score	p-value	% Below
-2.64	0.0042	0.42%
-2.63	0.0043	0.43%
-2.62	0.0044	0.44%
-2.61	0.0045	0.45%
-2.60	0.0047	0.47%
-2.59	0.0048	0.48%
-2.58	0.0049	0.49%
-2.57	0.0051	0.51%
-2.56	0.0052	0.52%
-2.55	0.0054	0.54%
-2.54	0.0055	0.55%
-2.53	0.0057	0.57%
-2.52	0.0059	0.59%
-2.51	0.0060	0.60%
-2.50	0.0062	0.62%
-2.49	0.0064	0.64%
-2.48	0.0066	0.66%
-2.47	0.0068	0.68%
-2.46	0.0070	0.70%
-2.45	0.0071	0.71%
-2.44	0.0073	0.73%
-2.43	0.0076	0.76%
-2.42	0.0078	0.78%
-2.41	0.0080	0.80%
-2.40	0.0082	0.82%
-2.39	0.0084	0.84%
-2.38	0.0087	0.87%
-2.37	0.0089	0.89%
-2.36	0.0091	0.91%
-2.35	0.0094	0.94%
-2.34	0.0096	0.96%
-2.33	0.0099	0.99%
-2.32	0.0102	1.02%
-2.31	0.0104	1.04%
-2.30	0.0107	1.07%
-2.29	0.0110	1.10%
-2.28	0.0113	1.13%
-2.27	0.0116	1.16%

z-Score	p-value	% Below
-2.26	0.0119	1.19%
-2.25	0.0122	1.22%
-2.24	0.0126	1.26%
-2.23	0.0129	1.29%
-2.22	0.0132	1.32%
-2.21	0.0136	1.36%
-2.20	0.0139	1.39%
-2.19	0.0143	1.43%
-2.18	0.0146	1.46%
-2.17	0.0150	1.50%
-2.16	0.0154	1.54%
-2.15	0.0158	1.58%
-2.14	0.0162	1.62%
-2.13	0.0166	1.66%
-2.12	0.0170	1.70%
-2.11	0.0174	1.74%
-2.10	0.0179	1.79%
-2.09	0.0183	1.83%
-2.08	0.0188	1.88%
-2.07	0.0192	1.92%
-2.06	0.0197	1.97%
-2.05	0.0202	2.02%
-2.04	0.0207	2.07%
-2.03	0.0212	2.12%
-2.02	0.0217	2.17%
-2.01	0.0222	2.22%
-2.00	0.0228	2.28%
-1.99	0.0233	2.33%
-1.98	0.0239	2.39%
-1.97	0.0244	2.44%
-1.96	0.0250	2.50%
-1.95	0.0256	2.56%
-1.94	0.0262	2.62%
-1.93	0.0268	2.68%
-1.92	0.0274	2.74%
-1.91	0.0281	2.81%
-1.90	0.0287	2.87%
-1.89	0.0294	2.94%

z-Score	p-value	% Below
-1.88	0.0301	3.01%
-1.87	0.0307	3.07%
-1.86	0.0314	3.14%
-1.85	0.0322	3.22%
-1.84	0.0329	3.29%
-1.83	0.0336	3.36%
-1.82	0.0344	3.44%
-1.81	0.0352	3.52%
-1.80	0.0359	3.59%
-1.79	0.0367	3.67%
-1.78	0.0375	3.75%
-1.77	0.0384	3.84%
-1.76	0.0392	3.92%
-1.75	0.0401	4.01%
-1.74	0.0409	4.09%
-1.73	0.0418	4.18%
-1.72	0.0427	4.27%
-1.71	0.0436	4.36%
-1.70	0.0446	4.46%
-1.69	0.0455	4.55%
-1.68	0.0465	4.65%
-1.67	0.0475	4.75%
-1.66	0.0485	4.85%
-1.65	0.0495	4.95%
-1.64	0.0505	5.05%
-1.63	0.0516	5.16%
-1.62	0.0526	5.26%
-1.61	0.0537	5.37%
-1.60	0.0548	5.48%
-1.59	0.0559	5.59%
-1.58	0.0571	5.71%
-1.57	0.0582	5.82%
-1.56	0.0594	5.94%
-1.55	0.0606	6.06%
-1.54	0.0618	6.18%
-1.53	0.0630	6.30%
-1.52	0.0643	6.43%
-1.51	0.0655	6.55%

z-Score	p-value	% Below
-1.50	0.0668	6.68%
-1.49	0.0681	6.81%
-1.48	0.0694	6.94%
-1.47	0.0708	7.08%
-1.46	0.0722	7.22%
-1.45	0.0735	7.35%
-1.44	0.0749	7.49%
-1.43	0.0764	7.64%
-1.42	0.0778	7.78%
-1.41	0.0793	7.93%
-1.40	0.0808	8.08%
-1.39	0.0823	8.23%
-1.38	0.0838	8.38%
-1.37	0.0853	8.53%
-1.36	0.0869	8.69%
-1.35	0.0885	8.85%
-1.34	0.0901	9.01%
-1.33	0.0918	9.18%
-1.32	0.0934	9.34%
-1.31	0.0951	9.51%
-1.30	0.0968	9.68%
-1.29	0.0985	9.85%
-1.28	0.1003	10.03%
-1.27	0.1020	10.20%
-1.26	0.1038	10.38%
-1.25	0.1057	10.57%
-1.24	0.1075	10.75%
-1.23	0.1094	10.94%
-1.22	0.1112	11.12%
-1.21	0.1131	11.31%
-1.20	0.1151	11.51%
-1.19	0.1170	11.70%
-1.18	0.1190	11.90%
-1.17	0.1210	12.10%
-1.16	0.1230	12.30%
-1.15	0.1251	12.51%
-1.14	0.1271	12.71%
-1.13	0.1292	12.92%

z-Score	p-value	% Below
-1.12	0.1314	13.14%
-1.11	0.1335	13.35%
-1.10	0.1357	13.57%
-1.09	0.1379	13.79%
-1.08	0.1401	14.01%
-1.07	0.1423	14.23%
-1.06	0.1446	14.46%
-1.05	0.1469	14.69%
-1.04	0.1492	14.92%
-1.03	0.1515	15.15%
-1.02	0.1539	15.39%
-1.01	0.1563	15.63%
-1.00	0.1587	15.87%
-0.99	0.1611	16.11%
-0.98	0.1635	16.35%
-0.97	0.1660	16.60%
-0.96	0.1685	16.85%
-0.95	0.1711	17.11%
-0.94	0.1736	17.36%
-0.93	0.1762	17.62%
-0.92	0.1788	17.88%
-0.91	0.1814	18.14%
-0.90	0.1841	18.41%
-0.89	0.1867	18.67%
-0.88	0.1894	18.94%
-0.87	0.1922	19.22%
-0.86	0.1949	19.49%
-0.85	0.1977	19.77%
-0.84	0.2005	20.05%
-0.83	0.2033	20.33%
-0.82	0.2061	20.61%
-0.81	0.2090	20.90%
-0.80	0.2119	21.19%
-0.79	0.2148	21.48%
-0.78	0.2177	21.77%
-0.77	0.2207	22.07%
-0.76	0.2236	22.36%
-0.75	0.2266	22.66%

z-Score	p-value	% Below
-0.74	0.2297	22.97%
-0.73	0.2327	23.27%
-0.72	0.2358	23.58%
-0.71	0.2389	23.89%
-0.70	0.2420	24.20%
-0.69	0.2451	24.51%
-0.68	0.2483	24.83%
-0.67	0.2514	25.14%
-0.66	0.2546	25.46%
-0.65	0.2579	25.79%
-0.64	0.2611	26.11%
-0.63	0.2644	26.44%
-0.62	0.2676	26.76%
-0.61	0.2709	27.09%
-0.60	0.2743	27.43%
-0.59	0.2776	27.76%
-0.58	0.2810	28.10%
-0.57	0.2843	28.43%
-0.56	0.2877	28.77%
-0.55	0.2912	29.12%
-0.54	0.2946	29.46%
-0.53	0.2981	29.81%
-0.52	0.3015	30.15%
-0.51	0.3150	31.50%
-0.50	0.3085	30.85%
-0.49	0.3121	31.21%
-0.48	0.3156	31.56%
-0.47	0.3192	31.92%
-0.46	0.3228	32.28%
-0.45	0.3264	32.64%
-0.44	0.3300	33.00%
-0.43	0.3336	33.36%
-0.42	0.3372	33.72%
-0.41	0.3409	34.09%
-0.40	0.3446	34.46%
-0.39	0.3483	34.83%
-0.38	0.3520	35.20%
-0.37	0.3557	35.57%

z-Score	p-value	% Below
-0.36	0.3594	35.94%
-0.35	0.3632	36.32%
-0.34	0.3669	36.69%
-0.33	0.3707	37.07%
-0.32	0.3745	37.45%
-0.31	0.3783	37.83%
-0.30	0.3821	38.21%
-0.29	0.3859	38.59%
-0.28	0.3897	38.97%
-0.27	0.3936	39.36%
-0.26	0.3974	39.74%
-0.25	0.4013	40.13%
-0.24	0.4052	40.52%
-0.23	0.4091	40.91%
-0.22	0.4129	41.29%
-0.21	0.4168	41.68%
-0.20	0.4207	42.07%
-0.19	0.4247	42.47%
-0.18	0.4286	42.86%
-0.17	0.4325	43.25%
-0.16	0.4364	43.64%
-0.15	0.4404	44.04%
-0.14	0.4443	44.43%
-0.13	0.4483	44.83%
-0.12	0.4522	45.22%
-0.11	0.4562	45.62%
-0.10	0.4602	46.02%
-0.09	0.4641	46.41%
-0.08	0.4681	46.81%
-0.07	0.4721	47.21%
-0.06	0.4761	47.61%
-0.05	0.4801	48.01%
-0.04	0.4841	48.41%
-0.03	0.4880	48.80%
-0.02	0.4920	49.20%
-0.01	0.4960	49.60%

Table 25.3.2.2: Positive z-Scores. (CC-BY-SA; modified by Michelle Oja from [Jsmura](#) via [Wikimedia Commons](#))

z-Score	p-value	% Below
0.00	0.5000	50.00%
0.01	0.5040	50.40%
0.02	0.5080	50.80%
0.03	0.5120	51.20%
0.04	0.5160	51.60%
0.05	0.5199	51.99%
0.06	0.5239	52.39%
0.07	0.5279	52.79%
0.08	0.5319	53.19%
0.09	0.5359	53.59%
0.10	0.5398	53.98%
0.11	0.5438	54.38%
0.12	0.5478	54.78%
0.13	0.5517	55.17%
0.14	0.5557	55.57%
0.15	0.5596	55.96%
0.16	0.5636	56.36%
0.17	0.5675	56.75%
0.18	0.5714	57.14%
0.19	0.5754	57.54%
0.20	0.5793	57.93%
0.21	0.5832	58.32%
0.22	0.5871	58.71%
0.23	0.5910	59.10%
0.24	0.5948	59.48%
0.25	0.5987	59.87%
0.26	0.6026	60.26%
0.27	0.6064	60.64%
0.28	0.6103	61.03%
0.29	0.6141	61.41%
0.30	0.6179	61.79%
0.31	0.6217	62.17%
0.32	0.6255	62.55%
0.33	0.6293	62.93%
0.34	0.6331	63.31%
0.35	0.6368	63.68%
0.36	0.6406	64.06%

z-Score	p-value	% Below
0.37	0.6443	64.43%
0.38	0.6480	64.80%
0.39	0.6517	65.17%
0.40	0.6554	65.54%
0.41	0.6591	65.91%
0.42	0.6628	66.28%
0.43	0.6664	66.64%
0.44	0.6700	67.00%
0.45	0.6736	67.36%
0.46	0.6772	67.72%
0.47	0.6808	68.08%
0.48	0.6844	68.44%
0.49	0.6879	68.79%
0.50	0.6915	69.15%
0.51	0.6950	69.50%
0.52	0.6985	69.85%
0.53	0.7019	70.19%
0.54	0.7054	70.54%
0.55	0.7088	70.88%
0.56	0.7123	71.23%
0.67	0.7157	71.57%
0.58	0.7190	71.90%
0.59	0.7224	72.24%
0.60	0.7258	72.58%
0.61	0.7291	72.91%
0.62	0.7324	73.24%
0.63	0.7357	73.57%
0.64	0.7389	73.89%
0.65	0.7422	74.22%
0.66	0.7454	74.54%
0.67	0.7486	74.86%
0.68	0.7518	75.18%
0.69	0.7549	75.49%
0.70	0.7580	75.80%
0.71	0.7612	76.12%
0.72	0.7642	76.42%
0.73	0.7673	76.73%
0.74	0.7704	77.04%

z-Score	p-value	% Below
0.75	0.7734	77.34%
0.76	0.7764	77.64%
0.77	0.7794	77.94%
0.78	0.7823	78.23%
0.79	0.7852	78.52%
0.80	0.7881	78.81%
0.81	0.7910	79.10%
0.82	0.7939	79.39%
0.83	0.7967	79.67%
0.84	0.7996	79.96%
0.85	0.8023	80.23%
0.86	0.8051	80.51%
0.87	0.8079	80.79%
0.88	0.8106	81.06%
0.89	0.8133	81.33%
0.90	0.8159	81.59%
0.91	0.8186	81.86%
0.92	0.8212	82.12%
0.93	0.8238	82.38%
0.94	0.8264	82.64%
0.95	0.8289	82.89%
0.96	0.8315	83.15%
0.97	0.8340	83.40%
0.98	0.8365	83.65%
0.99	0.8389	83.89%
1.00	0.8413	84.13%
1.01	0.8438	84.38%
1.02	0.8461	84.61%
1.03	0.8485	84.85%
1.04	0.8508	85.08%
1.05	0.8531	85.31%
1.06	0.8554	85.54%
1.07	0.8577	85.77%
1.08	0.8599	85.99%
1.09	0.8621	86.21%
1.10	0.8643	86.43%
1.11	0.8665	86.65%
1.12	0.8686	86.86%

z-Score	p-value	% Below
1.13	0.8708	87.08%
1.14	0.8729	87.29%
1.15	0.8749	87.49%
1.16	0.8770	87.70%
1.17	0.8790	87.90%
1.18	0.8810	88.10%
1.19	0.8830	88.30%
1.20	0.8849	88.49%
1.21	0.8869	88.69%
1.22	0.8838	88.38%
1.23	0.8907	89.07%
1.24	0.8925	89.25%
1.25	0.8944	89.44%
1.26	0.8562	85.62%
1.27	0.8980	89.80%
1.28	0.8997	89.97%
1.29	0.9015	90.15%
1.30	0.9032	90.32%
1.31	0.9349	93.49%
1.32	0.9366	93.66%
1.33	0.9382	93.82%
1.34	0.9099	90.99%
1.35	0.9115	91.15%
1.36	0.9131	91.31%
1.37	0.9147	91.47%
1.38	0.9162	91.62%
1.39	0.9177	91.77%
1.40	0.9192	91.92%
1.41	0.9207	92.07%
1.42	0.9222	92.22%
1.43	0.9236	92.36%
1.44	0.9251	92.51%
1.45	0.9265	92.65%
1.46	0.9279	92.79%
1.47	0.9292	92.92%
1.48	0.9306	93.06%
1.49	0.9319	93.19%
1.50	0.9332	93.32%

z-Score	p-value	% Below
1.51	0.9345	93.45%
1.52	0.9357	93.57%
1.53	0.9370	93.70%
1.54	0.9382	93.82%
1.55	0.9394	93.94%
1.56	0.9406	94.06%
1.57	0.9418	94.18%
1.58	0.9430	94.30%
1.59	0.9441	94.41%
1.60	0.9452	94.52%
1.61	0.9463	94.63%
1.62	0.9474	94.74%
1.63	0.9485	94.85%
1.64	0.9495	94.95%
1.65	0.9505	95.05%
1.66	0.9515	95.15%
1.67	0.9525	95.25%
1.68	0.9535	95.35%
1.69	0.9545	95.45%
1.70	0.9554	95.54%
1.71	0.9564	95.64%
1.72	0.9573	95.73%
1.73	0.9582	95.82%
1.74	0.9591	95.91%
1.75	0.9599	95.99%
1.76	0.9608	96.08%
1.77	0.9616	96.16%
1.78	0.9625	96.25%
1.79	0.9633	96.33%
1.80	0.9641	96.41%
1.81	0.9649	96.49%
1.82	0.9656	96.56%
1.83	0.9664	96.64%
1.84	0.9671	96.71%
1.85	0.9678	96.78%
1.86	0.9686	96.86%
1.87	0.9693	96.93%
1.88	0.9700	97.00%

z-Score	p-value	% Below
1.89	0.9706	97.06%
1.90	0.9713	97.13%
1.91	0.9719	97.19%
1.92	0.9726	97.26%
1.93	0.9732	97.32%
1.94	0.9738	97.38%
1.95	0.9744	97.44%
1.96	0.9750	97.50%
1.97	0.9756	97.56%
1.98	0.9762	97.62%
1.99	0.9767	97.67%
2.00	0.9773	97.73%
2.01	0.9778	97.78%
2.02	0.9783	97.83%
2.03	0.9788	97.88%
2.04	0.9793	97.93%
2.05	0.9798	97.98%
2.06	0.9803	98.03%
2.07	0.9808	98.08%
2.08	0.9812	98.12%
2.09	0.9817	98.17%
2.10	0.9821	98.21%
2.11	0.9826	98.26%
2.12	0.9830	98.30%
2.13	0.9834	98.34%
2.14	0.9838	98.38%
2.15	0.9842	98.42%
2.16	0.9846	98.46%
2.17	0.9850	98.50%
2.18	0.9854	98.54%
2.19	0.9857	98.57%
2.20	0.9861	98.61%
2.21	0.9865	98.65%
2.22	0.9868	98.68%
2.23	0.9871	98.71%
2.24	0.9875	98.75%
2.25	0.9878	98.78%
2.26	0.9881	98.81%

z-Score	p-value	% Below
2.27	0.9884	98.84%
2.28	0.9887	98.87%
2.29	0.9890	98.90%
2.30	0.9893	98.93%
2.31	0.9896	98.96%
2.32	0.9898	98.98%
2.33	0.9901	99.01%
2.34	0.9904	99.04%
2.35	0.9906	99.06%
2.36	0.9909	99.09%
2.37	0.9911	99.11%
2.38	0.9913	99.13%
2.39	0.9916	99.16%
2.40	0.9918	99.18%
2.41	0.9920	99.20%
2.42	0.9922	99.22%
2.43	0.9925	99.25%
2.44	0.9927	99.27%
2.45	0.9929	99.29%
2.46	0.9931	99.31%
2.47	0.9932	99.32%
2.48	0.9934	99.34%
2.49	0.9936	99.36%
2.50	0.9938	99.38%
2.51	0.9940	99.40%
2.52	0.9941	99.41%
2.53	0.9943	99.43%
2.54	0.9945	99.45%
2.55	0.9946	99.46%
2.56	0.9948	99.48%
2.57	0.9949	99.49%
2.58	0.9951	99.51%
2.59	0.9952	99.52%
2.60	0.9953	99.53%
2.61	0.9955	99.55%
2.62	0.9956	99.56%
2.63	0.9957	99.57%
2.64	0.9959	99.59%

z-Score	p-value	% Below
2.65	0.9960	99.60%
2.66	0.9961	99.61%
2.67	0.9962	99.62%
2.68	0.9963	99.63%
2.69	0.9964	99.64%
2.70	0.9965	99.65%
2.71	0.9968	99.68%
2.72	0.9967	99.67%
2.73	0.9968	99.68%
2.74	0.9969	99.69%
2.75	0.9970	99.70%
2.76	0.9971	99.71%
2.77	0.9972	99.72%
2.78	0.9973	99.73%
2.79	0.9974	99.74%
2.80	0.9974	99.74%
2.81	0.9975	99.75%
2.82	0.9976	99.76%
2.83	0.9977	99.77%
2.84	0.9977	99.77%
2.85	0.9978	99.78%
2.86	0.9979	99.79%
2.87	0.9980	99.80%
2.88	0.9980	99.80%
2.89	0.9981	99.81%
2.90	0.9981	99.81%
2.91	0.9982	99.82%
2.92	0.9983	99.83%
2.93	0.9983	99.83%
2.94	0.9984	99.84%
2.95	0.9984	99.84%
2.96	0.9985	99.85%
2.97	0.9985	99.85%
2.98	0.9986	99.86%
2.99	0.9986	99.86%
3.00	0.9987	99.87%

Positive z-score

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