

STANDARD NORMAL DISTRIBUTION TABLE

Entries represent $\Pr(Z \leq z)$. The value of z to the first decimal is given in the left column. The second decimal is given in the top row.

| z | 0.00 | 0.01 | 0.02 | 0.03 | 0.04 | 0.05 | 0.06 | 0.07 | 0.08 | 0.09 |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0.0 | 0.5000 | 0.5040 | 0.5080 | 0.5120 | 0.5160 | 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 | 0.5910 | 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 | 0.6480 | 0.6517 |
| 0.4 | 0.6554 | 0.6591 | 0.6628 | 0.6664 | 0.6700 | 0.6736 | 0.6772 | 0.6808 | 0.6844 | 0.6879 |
| 0.5 | 0.6915 | 0.6950 | 0.6985 | 0.7019 | 0.7054 | 0.7088 | 0.7123 | 0.7157 | 0.7190 | 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 | 0.7580 | 0.7611 | 0.7642 | 0.7673 | 0.7704 | 0.7734 | 0.7764 | 0.7794 | 0.7823 | 0.7852 |
| 0.8 | 0.7881 | 0.7910 | 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 | 0.8340 | 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 | 0.8770 | 0.8790 | 0.8810 | 0.8830 |
| 1.2 | 0.8849 | 0.8869 | 0.8888 | 0.8907 | 0.8925 | 0.8944 | 0.8962 | 0.8980 | 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 | 0.9370 | 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 | 0.9750 | 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 | 0.9830 | 0.9834 | 0.9838 | 0.9842 | 0.9846 | 0.9850 | 0.9854 | 0.9857 |
| 2.2 | 0.9861 | 0.9864 | 0.9868 | 0.9871 | 0.9875 | 0.9878 | 0.9881 | 0.9884 | 0.9887 | 0.9890 |
| 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 | 0.9920 | 0.9922 | 0.9925 | 0.9927 | 0.9929 | 0.9931 | 0.9932 | 0.9934 | 0.9936 |
| 2.5 | 0.9938 | 0.9940 | 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 | 0.9960 | 0.9961 | 0.9962 | 0.9963 | 0.9964 |
| 2.7 | 0.9965 | 0.9966 | 0.9967 | 0.9968 | 0.9969 | 0.9970 | 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 | 0.9980 | 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 | 0.9990 | 0.9990 |
| 3.1 | 0.9990 | 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 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |

| Values of z for selected values of $\Pr(Z \leq z)$ | | | | | | | |
|--|-------|-------|-------|-------|-------|-------|-------|
| z | 0.842 | 1.036 | 1.282 | 1.645 | 1.960 | 2.326 | 2.576 |
| $\Pr(Z \leq z)$ | 0.800 | 0.850 | 0.900 | 0.950 | 0.975 | 0.990 | 0.995 |

t DISTRIBUTION TABLE

Entries provide the solution to $\Pr(t > t_p) = p$ where t has a t distribution with the indicated degrees of freedom.

| df | $t_{0.100}$ | $t_{0.050}$ | $t_{0.025}$ | $t_{0.010}$ | $t_{0.005}$ |
|----------|-------------|-------------|-------------|-------------|-------------|
| 1 | 3.0777 | 6.3138 | 12.7062 | 31.8205 | 63.6567 |
| 2 | 1.8856 | 2.9200 | 4.3027 | 6.9646 | 9.9248 |
| 3 | 1.6377 | 2.3534 | 3.1824 | 4.5407 | 5.8409 |
| 4 | 1.5332 | 2.1318 | 2.7764 | 3.7469 | 4.6041 |
| 5 | 1.4759 | 2.0150 | 2.5706 | 3.3649 | 4.0321 |
| 6 | 1.4398 | 1.9432 | 2.4469 | 3.1427 | 3.7074 |
| 7 | 1.4149 | 1.8946 | 2.3646 | 2.9980 | 3.4995 |
| 8 | 1.3968 | 1.8595 | 2.3060 | 2.8965 | 3.3554 |
| 9 | 1.3830 | 1.8331 | 2.2622 | 2.8214 | 3.2498 |
| 10 | 1.3722 | 1.8125 | 2.2281 | 2.7638 | 3.1693 |
| 11 | 1.3634 | 1.7959 | 2.2010 | 2.7181 | 3.1058 |
| 12 | 1.3562 | 1.7823 | 2.1788 | 2.6810 | 3.0545 |
| 13 | 1.3502 | 1.7709 | 2.1604 | 2.6503 | 3.0123 |
| 14 | 1.3450 | 1.7613 | 2.1448 | 2.6245 | 2.9768 |
| 15 | 1.3406 | 1.7531 | 2.1314 | 2.6025 | 2.9467 |
| 16 | 1.3368 | 1.7459 | 2.1199 | 2.5835 | 2.9208 |
| 17 | 1.3334 | 1.7396 | 2.1098 | 2.5669 | 2.8982 |
| 18 | 1.3304 | 1.7341 | 2.1009 | 2.5524 | 2.8784 |
| 19 | 1.3277 | 1.7291 | 2.0930 | 2.5395 | 2.8609 |
| 20 | 1.3253 | 1.7247 | 2.0860 | 2.5280 | 2.8453 |
| 21 | 1.3232 | 1.7207 | 2.0796 | 2.5176 | 2.8314 |
| 22 | 1.3212 | 1.7171 | 2.0739 | 2.5083 | 2.8188 |
| 23 | 1.3195 | 1.7139 | 2.0687 | 2.4999 | 2.8073 |
| 24 | 1.3178 | 1.7109 | 2.0639 | 2.4922 | 2.7969 |
| 25 | 1.3163 | 1.7081 | 2.0595 | 2.4851 | 2.7874 |
| 26 | 1.3150 | 1.7056 | 2.0555 | 2.4786 | 2.7787 |
| 27 | 1.3137 | 1.7033 | 2.0518 | 2.4727 | 2.7707 |
| 28 | 1.3125 | 1.7011 | 2.0484 | 2.4671 | 2.7633 |
| 29 | 1.3114 | 1.6991 | 2.0452 | 2.4620 | 2.7564 |
| infinity | 1.2816 | 1.6449 | 1.9600 | 2.3263 | 2.5758 |

CHI-SQUARE DISTRIBUTION TABLE

Entries provide the solution to $\Pr(\chi^2 > \chi_p^2) = p$ where χ^2 has a chi-square distribution with the indicated degrees of freedom.

| df | $\chi_{0.100}^2$ | $\chi_{0.050}^2$ | $\chi_{0.025}^2$ | $\chi_{0.010}^2$ | $\chi_{0.005}^2$ |
|-----|------------------|------------------|------------------|------------------|------------------|
| 1 | 2.706 | 3.841 | 5.024 | 6.635 | 7.879 |
| 2 | 4.605 | 5.991 | 7.378 | 9.210 | 10.597 |
| 3 | 6.251 | 7.815 | 9.348 | 11.345 | 12.838 |
| 4 | 7.779 | 9.488 | 11.143 | 13.277 | 14.860 |
| 5 | 9.236 | 11.070 | 12.833 | 15.086 | 16.750 |
| 6 | 10.645 | 12.592 | 14.449 | 16.812 | 18.548 |
| 7 | 12.017 | 14.067 | 16.013 | 18.475 | 20.278 |
| 8 | 13.362 | 15.507 | 17.535 | 20.090 | 21.955 |
| 9 | 14.684 | 16.919 | 19.023 | 21.666 | 23.589 |
| 10 | 15.987 | 18.307 | 20.483 | 23.209 | 25.188 |
| 11 | 17.275 | 19.675 | 21.920 | 24.725 | 26.757 |
| 12 | 18.549 | 21.026 | 23.337 | 26.217 | 28.300 |
| 13 | 19.812 | 22.362 | 24.736 | 27.688 | 29.819 |
| 14 | 21.064 | 23.685 | 26.119 | 29.141 | 31.319 |
| 15 | 22.307 | 24.996 | 27.488 | 30.578 | 32.801 |
| 16 | 23.542 | 26.296 | 28.845 | 32.000 | 34.267 |
| 17 | 24.769 | 27.587 | 30.191 | 33.409 | 35.718 |
| 18 | 25.989 | 28.869 | 31.526 | 34.805 | 37.156 |
| 19 | 27.204 | 30.144 | 32.852 | 36.191 | 38.582 |
| 20 | 28.412 | 31.410 | 34.170 | 37.566 | 39.997 |
| 21 | 29.615 | 32.671 | 35.479 | 38.932 | 41.401 |
| 22 | 30.813 | 33.924 | 36.781 | 40.289 | 42.796 |
| 23 | 32.007 | 35.172 | 38.076 | 41.638 | 44.181 |
| 24 | 33.196 | 36.415 | 39.364 | 42.980 | 45.559 |
| 25 | 34.382 | 37.652 | 40.646 | 44.314 | 46.928 |
| 26 | 35.563 | 38.885 | 41.923 | 45.642 | 48.290 |
| 27 | 36.741 | 40.113 | 43.195 | 46.963 | 49.645 |
| 28 | 37.916 | 41.337 | 44.461 | 48.278 | 50.993 |
| 29 | 39.087 | 42.557 | 45.722 | 49.588 | 52.336 |
| 30 | 40.256 | 43.773 | 46.979 | 50.892 | 53.672 |
| 40 | 51.805 | 55.758 | 59.342 | 63.691 | 66.766 |
| 50 | 63.167 | 67.505 | 71.420 | 76.154 | 79.490 |
| 60 | 74.397 | 79.082 | 83.298 | 88.379 | 91.952 |
| 70 | 85.527 | 90.531 | 95.023 | 100.425 | 104.215 |
| 80 | 96.578 | 101.879 | 106.629 | 112.329 | 116.321 |
| 90 | 107.565 | 113.145 | 118.136 | 124.116 | 128.299 |
| 100 | 118.498 | 124.342 | 129.561 | 135.807 | 140.169 |