

Công thức tính xác suất – hàm mật độ

| | | | |
|-------------------------------|--------------------------------------|--|--|
| $X \sim A(p); x = 0, 1$ | $X \sim B(n, p); x = 0, 1, \dots, n$ | $X \sim P(\lambda); x = 0, 1, \dots$ | $X \sim N(\mu, \sigma^2), x \in \mathbb{R}$ |
| $P(X = x) = p^x(1 - p)^{1-x}$ | $P(X = x) = C_n^x p^x(1 - p)^{n-x}$ | $P(X = x) = \frac{e^{-\lambda} \lambda^x}{x!}$ | $f(x) = \frac{1}{\sigma\sqrt{2\pi}} \exp\left(-\frac{(x - \mu)^2}{2\sigma^2}\right)$ |

Trung bình và phương sai mẫu

| | Trung bình mẫu: \bar{x} | Phương sai mẫu s^2 | |
|---|--|--|---|
| Mẫu liệt kê (x_1, x_2, \dots, x_n) | $\frac{\sum x_i}{n}$ | $\frac{\sum (x_i - \bar{x})^2}{n - 1}$ | $\frac{n}{n - 1} \left(\frac{\sum x_i^2}{n} - (\bar{x})^2 \right)$ |
| Mẫu k nhóm Tần số (n_1, n_2, \dots, n_k) | $\frac{\sum n_i x_i}{\sum n_i} = \frac{\sum n_i x_i}{n}$ | $\frac{\sum n_i (x_i - \bar{x})^2}{n - 1}$ | $\frac{n}{n - 1} \left(\frac{\sum n_i x_i^2}{n} - (\bar{x})^2 \right)$ |

QUY LUẬT CỦA THỐNG KÊ – ƯỚC LƯỢNG THAM SỐ

| Phân phối của thống kê: mẫu kích thước n | Ước lượng khoảng hai phía: độ tin cậy $(1 - \alpha)$ |
|---|---|
| $X \sim N(\mu, \sigma^2): \bar{X} \sim N\left(\mu, \frac{\sigma^2}{n}\right)$ | $\bar{x} - \frac{s}{\sqrt{n}} t_{\alpha/2}^{(n-1)} < \mu < \bar{x} + \frac{s}{\sqrt{n}} t_{\alpha/2}^{(n-1)}$ |
| $X \sim N(\mu, \sigma^2): \frac{(n - 1)S^2}{\sigma^2} \sim \chi^2(n - 1)$ | $\frac{(n - 1)s^2}{\chi_{\alpha/2}^{2(n-1)}} < \sigma^2 < \frac{(n - 1)s^2}{\chi_{1-\alpha/2}^{2(n-1)}}$ |
| $X \sim A(p), n \geq 100: \hat{p} \sim N\left(p, \frac{p(1 - p)}{n}\right)$ | $\hat{p} - z_{\alpha/2} \sqrt{\frac{\hat{p}(1 - \hat{p})}{n}} < p < \hat{p} + z_{\alpha/2} \sqrt{\frac{\hat{p}(1 - \hat{p})}{n}}$ |

KIỂM ĐỊNH THAM SỐ (mức ý nghĩa α)

| Kiểm định một tham số | | | Kiểm định hai tham số | | |
|--|--|--|---|--|--|
| H_0 – Thống kê | H_1 | Bác bỏ H_0 | H_0 – Thống kê | H_1 | Bác bỏ H_0 |
| $H_0: \mu = \mu_0$ $T_{qs} = \frac{\bar{x} - \mu_0}{s/\sqrt{n}}$ | $\mu \neq \mu_0$ $\mu > \mu_0$ $\mu < \mu_0$ | $ T_{qs} > t_{\alpha/2}^{(n-1)}$ $T_{qs} > t_{\alpha}^{(n-1)}$ $T_{qs} < -t_{\alpha}^{(n-1)}$ | $H_0: \mu_1 = \mu_2 (n_1, n_2 > 30)$ $T_{qs} = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}}$ | $\mu_1 \neq \mu_2$ $\mu_1 > \mu_2$ $\mu_1 < \mu_2$ | $ T_{qs} > z_{\alpha/2}$ $T_{qs} > z_{\alpha}$ $T_{qs} < -z_{\alpha}$ |
| $H_0: \sigma^2 = \sigma_0^2$ $\chi_{qs}^2 = \frac{(n - 1)s^2}{\sigma_0^2}$ | $\sigma^2 \neq \sigma_0^2$ $\sigma^2 > \sigma_0^2$ $\sigma^2 < \sigma_0^2$ | $\chi_{qs}^2 > \chi_{\alpha/2}^{2(n-1)}$ $\chi_{qs}^2 > \chi_{\alpha}^{2(n-1)}$ $\chi_{qs}^2 < \chi_{1-\alpha}^{2(n-1)}$ | $H_0: \sigma_1^2 = \sigma_2^2$ $F_{qs} = \frac{s_1^2}{s_2^2}$ | $\sigma_1^2 \neq \sigma_2^2$ $\sigma_1^2 > \sigma_2^2$ $\sigma_1^2 < \sigma_2^2$ | $F_{qs} > f_{\alpha/2}^{(n_1-1, n_2-1)}$ $F_{qs} > f_{\alpha}^{(n_1-1, n_2-1)}$ $F_{qs} < f_{1-\alpha}^{(n_1-1, n_2-1)}$ |
| $H_0: p = p_0$ $Z_{qs} = \frac{\hat{p} - p_0}{\sqrt{\frac{p_0(1 - p_0)}{n}}}$ | $p \neq p_0$ $p > p_0$ $p < p_0$ | $ Z_{qs} > z_{\alpha/2}$ $Z_{qs} > z_{\alpha}$ $Z_{qs} < -z_{\alpha}$ | $H_0: p_1 = p_2$ $Z_{qs} = \frac{\hat{p}_1 - \hat{p}_2}{\sqrt{\bar{p}(1 - \bar{p}) \left(\frac{1}{n_1} + \frac{1}{n_2} \right)}}$ | $p_1 \neq p_2$ $p_1 > p_2$ $p_1 < p_2$ | $ Z_{qs} > z_{\alpha/2}$ $Z_{qs} > z_{\alpha}$ $Z_{qs} < -z_{\alpha}$ |

KIỂM ĐỊNH PHI THAM SỐ (mức ý nghĩa α)

| | Phân phối chuẩn | Tính độc lập |
|--------------|---|--|
| Tiêu chuẩn | $JB_{qs} = n \left(\frac{a_3^2}{6} + \frac{(a_4 - 3)^2}{24} \right)$ | $\chi_{qs}^2 = n \left(\sum \frac{n_{ij}^2}{n_i m_j} - 1 \right)$ |
| Bác bỏ H_0 | $JB_{qs} > \chi_{\alpha}^{2(2)}$ | $\chi_{qs}^2 > \chi_{\alpha}^{2((h-1) \times (k-1))}$ |

GIÁ TRỊ TỚI HẠN MỨC α

Phân phối Student: $t_{\alpha}^{(n)}$

| $n \backslash \alpha$ | 0.1 | 0.05 | 0.025 | 0.01 |
|-----------------------|-------|-------|-------|-------|
| 6 | 1.440 | 1.943 | 2.447 | 3.143 |
| 7 | 1.415 | 1.895 | 2.365 | 2.998 |
| 8 | 1.397 | 1.860 | 2.306 | 2.896 |
| 9 | 1.383 | 1.833 | 2.262 | 2.821 |
| 10 | 1.372 | 1.812 | 2.228 | 2.764 |
| 11 | 1.363 | 1.796 | 2.201 | 2.718 |
| 12 | 1.356 | 1.782 | 2.179 | 2.681 |
| 13 | 1.350 | 1.771 | 2.160 | 2.650 |
| 14 | 1.345 | 1.761 | 2.145 | 2.624 |
| 15 | 1.341 | 1.753 | 2.131 | 2.602 |
| 16 | 1.337 | 1.746 | 2.120 | 2.583 |
| 17 | 1.333 | 1.740 | 2.110 | 2.567 |
| 18 | 1.330 | 1.734 | 2.101 | 2.552 |
| 19 | 1.328 | 1.729 | 2.093 | 2.539 |
| 20 | 1.325 | 1.725 | 2.086 | 2.528 |
| 21 | 1.323 | 1.721 | 2.080 | 2.518 |
| 22 | 1.321 | 1.717 | 2.074 | 2.508 |
| 23 | 1.319 | 1.714 | 2.069 | 2.500 |
| 24 | 1.318 | 1.711 | 2.064 | 2.492 |
| 25 | 1.316 | 1.708 | 2.060 | 2.485 |
| 26 | 1.315 | 1.706 | 2.056 | 2.479 |
| 27 | 1.314 | 1.703 | 2.052 | 2.473 |
| 28 | 1.313 | 1.701 | 2.048 | 2.467 |
| 29 | 1.311 | 1.699 | 2.045 | 2.462 |
| 30 | 1.310 | 1.697 | 2.042 | 2.457 |
| ∞ | 1.282 | 1.645 | 1.960 | 2.326 |

Phân phối Khi-bình phương: $\chi_{\alpha}^{2(n)}$

| $n \backslash \alpha$ | 0.975 | 0.95 | 0.9 | 0.1 | 0.05 | 0.025 |
|-----------------------|-------|-------|-------|-------|-------|-------|
| 1 | 0.001 | 0.004 | 0.016 | 2.706 | 3.841 | 5.024 |
| 2 | 0.051 | 0.103 | 0.211 | 4.605 | 5.991 | 7.378 |
| 3 | 0.216 | 0.352 | 0.584 | 6.251 | 7.815 | 9.348 |
| 4 | 0.484 | 0.711 | 1.064 | 7.779 | 9.488 | 11.14 |
| 5 | 0.831 | 1.145 | 1.610 | 9.236 | 11.07 | 12.83 |
| 6 | 1.237 | 1.635 | 2.204 | 10.64 | 12.59 | 14.45 |
| 7 | 1.690 | 2.167 | 2.833 | 12.02 | 14.07 | 16.01 |
| 8 | 2.180 | 2.733 | 3.490 | 13.36 | 15.51 | 17.53 |
| 9 | 2.700 | 3.325 | 4.168 | 14.68 | 16.92 | 19.02 |
| 10 | 3.247 | 3.940 | 4.865 | 15.99 | 18.31 | 20.48 |
| 11 | 3.816 | 4.575 | 5.578 | 17.28 | 19.68 | 21.92 |
| 12 | 4.404 | 5.226 | 6.304 | 18.55 | 21.03 | 23.34 |
| 13 | 5.009 | 5.892 | 7.042 | 19.81 | 22.36 | 24.74 |
| 14 | 5.629 | 6.571 | 7.790 | 21.06 | 23.68 | 26.12 |
| 15 | 6.262 | 7.261 | 8.547 | 22.31 | 25.00 | 27.49 |
| 19 | 8.907 | 10.12 | 11.65 | 27.20 | 30.14 | 32.85 |
| 24 | 12.40 | 13.85 | 15.66 | 33.20 | 36.42 | 39.36 |
| 29 | 16.05 | 17.71 | 19.77 | 39.09 | 42.56 | 45.72 |
| 39 | 23.65 | 25.70 | 28.20 | 50.66 | 54.57 | 58.12 |
| 49 | 31.55 | 33.93 | 36.82 | 62.04 | 66.34 | 70.22 |
| 59 | 39.66 | 42.34 | 45.58 | 73.28 | 77.93 | 82.12 |
| 79 | 56.31 | 59.52 | 63.38 | 95.48 | 100.8 | 105.5 |
| 99 | 73.36 | 77.05 | 81.45 | 117.4 | 123.2 | 128.4 |
| 120 | 91.57 | 95.70 | 100.6 | 140.2 | 146.6 | 152.2 |
| 150 | 118.0 | 122.7 | 128.3 | 172.6 | 179.6 | 185.8 |
| 200 | 162.7 | 168.3 | 174.8 | 226.0 | 234.0 | 241.1 |

Phân phối Fisher: $f_{\alpha}^{(n_1, n_2)}$

| $n_2 \backslash n_1$ | α | 15 | 19 | 24 | 29 | 39 | 59 | 99 | 120 |
|----------------------|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| 19 | 0.025 | 2.617 | 2.526 | 2.452 | 2.402 | 2.338 | 2.272 | 2.218 | 2.203 |
| | 0.05 | 2.234 | 2.168 | 2.114 | 2.077 | 2.030 | 1.981 | 1.941 | 1.930 |
| | 0.1 | 1.865 | 1.822 | 1.787 | 1.763 | 1.732 | 1.700 | 1.673 | 1.666 |
| 24 | 0.025 | 2.437 | 2.345 | 2.269 | 2.217 | 2.151 | 2.082 | 2.025 | 2.010 |
| | 0.05 | 2.108 | 2.040 | 1.984 | 1.945 | 1.896 | 1.844 | 1.801 | 1.790 |
| | 0.1 | 1.783 | 1.739 | 1.702 | 1.676 | 1.643 | 1.608 | 1.579 | 1.571 |
| 29 | 0.025 | 2.325 | 2.231 | 2.154 | 2.101 | 2.033 | 1.962 | 1.902 | 1.886 |
| | 0.05 | 2.027 | 1.958 | 1.901 | 1.861 | 1.809 | 1.756 | 1.710 | 1.698 |
| | 0.1 | 1.731 | 1.685 | 1.647 | 1.620 | 1.585 | 1.548 | 1.517 | 1.509 |
| 39 | 0.025 | 2.191 | 2.096 | 2.017 | 1.962 | 1.891 | 1.816 | 1.752 | 1.735 |
| | 0.05 | 1.931 | 1.860 | 1.800 | 1.759 | 1.704 | 1.647 | 1.598 | 1.585 |
| | 0.1 | 1.667 | 1.619 | 1.579 | 1.551 | 1.514 | 1.474 | 1.440 | 1.431 |
| 59 | 0.025 | 2.065 | 1.968 | 1.886 | 1.829 | 1.754 | 1.674 | 1.605 | 1.586 |
| | 0.05 | 1.839 | 1.766 | 1.703 | 1.660 | 1.602 | 1.540 | 1.486 | 1.471 |
| | 0.1 | 1.605 | 1.555 | 1.513 | 1.483 | 1.443 | 1.399 | 1.361 | 1.350 |
| 99 | 0.025 | 1.969 | 1.870 | 1.785 | 1.726 | 1.648 | 1.562 | 1.486 | 1.465 |
| | 0.05 | 1.769 | 1.693 | 1.628 | 1.582 | 1.521 | 1.454 | 1.394 | 1.377 |
| | 0.1 | 1.557 | 1.505 | 1.461 | 1.429 | 1.386 | 1.338 | 1.295 | 1.283 |
| 120 | 0.025 | 1.945 | 1.845 | 1.760 | 1.700 | 1.620 | 1.533 | 1.455 | 1.433 |
| | 0.05 | 1.750 | 1.674 | 1.608 | 1.562 | 1.500 | 1.431 | 1.369 | 1.352 |
| | 0.1 | 1.545 | 1.493 | 1.447 | 1.415 | 1.371 | 1.322 | 1.277 | 1.265 |

Giá trị hàm: $\Phi(z) = P(Z < z); Z \sim N(0, 1)$

Với $z > 0$

| 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 |

Giá trị hàm: $\Phi(z) = P(Z < z); Z \sim N(0, 1)$

Với $z < 0$

| 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 | 0.4960 | 0.4920 | 0.4880 | 0.4840 | 0.4801 | 0.4761 | 0.4721 | 0.4681 | 0.4641 |
| -0.1 | 0.4602 | 0.4562 | 0.4522 | 0.4483 | 0.4443 | 0.4404 | 0.4364 | 0.4325 | 0.4286 | 0.4247 |
| -0.2 | 0.4207 | 0.4168 | 0.4129 | 0.4090 | 0.4052 | 0.4013 | 0.3974 | 0.3936 | 0.3897 | 0.3859 |
| -0.3 | 0.3821 | 0.3783 | 0.3745 | 0.3707 | 0.3669 | 0.3632 | 0.3594 | 0.3557 | 0.3520 | 0.3483 |
| -0.4 | 0.3446 | 0.3409 | 0.3372 | 0.3336 | 0.3300 | 0.3264 | 0.3228 | 0.3192 | 0.3156 | 0.3121 |
| -0.5 | 0.3085 | 0.3050 | 0.3015 | 0.2981 | 0.2946 | 0.2912 | 0.2877 | 0.2843 | 0.2810 | 0.2776 |
| -0.6 | 0.2743 | 0.2709 | 0.2676 | 0.2643 | 0.2611 | 0.2578 | 0.2546 | 0.2514 | 0.2483 | 0.2451 |
| -0.7 | 0.2420 | 0.2389 | 0.2358 | 0.2327 | 0.2296 | 0.2266 | 0.2236 | 0.2206 | 0.2177 | 0.2148 |
| -0.8 | 0.2119 | 0.2090 | 0.2061 | 0.2033 | 0.2005 | 0.1977 | 0.1949 | 0.1922 | 0.1894 | 0.1867 |
| -0.9 | 0.1841 | 0.1814 | 0.1788 | 0.1762 | 0.1736 | 0.1711 | 0.1685 | 0.1660 | 0.1635 | 0.1611 |
| -1.0 | 0.1587 | 0.1562 | 0.1539 | 0.1515 | 0.1492 | 0.1469 | 0.1446 | 0.1423 | 0.1401 | 0.1379 |
| -1.1 | 0.1357 | 0.1335 | 0.1314 | 0.1292 | 0.1271 | 0.1251 | 0.1230 | 0.1210 | 0.1190 | 0.1170 |
| -1.2 | 0.1151 | 0.1131 | 0.1112 | 0.1093 | 0.1075 | 0.1056 | 0.1038 | 0.1020 | 0.1003 | 0.0985 |
| -1.3 | 0.0968 | 0.0951 | 0.0934 | 0.0918 | 0.0901 | 0.0885 | 0.0869 | 0.0853 | 0.0838 | 0.0823 |
| -1.4 | 0.0808 | 0.0793 | 0.0778 | 0.0764 | 0.0749 | 0.0735 | 0.0721 | 0.0708 | 0.0694 | 0.0681 |
| -1.5 | 0.0668 | 0.0655 | 0.0643 | 0.0630 | 0.0618 | 0.0606 | 0.0594 | 0.0582 | 0.0571 | 0.0559 |
| -1.6 | 0.0548 | 0.0537 | 0.0526 | 0.0516 | 0.0505 | 0.0495 | 0.0485 | 0.0475 | 0.0465 | 0.0455 |
| -1.7 | 0.0446 | 0.0436 | 0.0427 | 0.0418 | 0.0409 | 0.0401 | 0.0392 | 0.0384 | 0.0375 | 0.0367 |
| -1.8 | 0.0359 | 0.0351 | 0.0344 | 0.0336 | 0.0329 | 0.0322 | 0.0314 | 0.0307 | 0.0301 | 0.0294 |
| -1.9 | 0.0287 | 0.0281 | 0.0274 | 0.0268 | 0.0262 | 0.0256 | 0.0250 | 0.0244 | 0.0239 | 0.0233 |
| -2.0 | 0.0228 | 0.0222 | 0.0217 | 0.0212 | 0.0207 | 0.0202 | 0.0197 | 0.0192 | 0.0188 | 0.0183 |
| -2.1 | 0.0179 | 0.0174 | 0.0170 | 0.0166 | 0.0162 | 0.0158 | 0.0154 | 0.0150 | 0.0146 | 0.0143 |
| -2.2 | 0.0139 | 0.0136 | 0.0132 | 0.0129 | 0.0125 | 0.0122 | 0.0119 | 0.0116 | 0.0113 | 0.0110 |
| -2.3 | 0.0107 | 0.0104 | 0.0102 | 0.0099 | 0.0096 | 0.0094 | 0.0091 | 0.0089 | 0.0087 | 0.0084 |
| -2.4 | 0.0082 | 0.0080 | 0.0078 | 0.0075 | 0.0073 | 0.0071 | 0.0069 | 0.0068 | 0.0066 | 0.0064 |
| -2.5 | 0.0062 | 0.0060 | 0.0059 | 0.0057 | 0.0055 | 0.0054 | 0.0052 | 0.0051 | 0.0049 | 0.0048 |
| -2.6 | 0.0047 | 0.0045 | 0.0044 | 0.0043 | 0.0041 | 0.0040 | 0.0039 | 0.0038 | 0.0037 | 0.0036 |
| -2.7 | 0.0035 | 0.0034 | 0.0033 | 0.0032 | 0.0031 | 0.0030 | 0.0029 | 0.0028 | 0.0027 | 0.0026 |
| -2.8 | 0.0026 | 0.0025 | 0.0024 | 0.0023 | 0.0023 | 0.0022 | 0.0021 | 0.0021 | 0.0020 | 0.0019 |
| -2.9 | 0.0019 | 0.0018 | 0.0018 | 0.0017 | 0.0016 | 0.0016 | 0.0015 | 0.0015 | 0.0014 | 0.0014 |
| -3.0 | 0.0013 | 0.0013 | 0.0013 | 0.0012 | 0.0012 | 0.0011 | 0.0011 | 0.0011 | 0.0010 | 0.0010 |
| -3.1 | 0.0010 | 0.0009 | 0.0009 | 0.0009 | 0.0008 | 0.0008 | 0.0008 | 0.0008 | 0.0007 | 0.0007 |
| -3.2 | 0.0007 | 0.0007 | 0.0006 | 0.0006 | 0.0006 | 0.0006 | 0.0006 | 0.0005 | 0.0005 | 0.0005 |
| -3.3 | 0.0005 | 0.0005 | 0.0005 | 0.0004 | 0.0004 | 0.0004 | 0.0004 | 0.0004 | 0.0004 | 0.0003 |
| -3.4 | 0.0003 | 0.0003 | 0.0003 | 0.0003 | 0.0003 | 0.0003 | 0.0003 | 0.0003 | 0.0003 | 0.0002 |
| -3.5 | 0.0002 | 0.0002 | 0.0002 | 0.0002 | 0.0002 | 0.0002 | 0.0002 | 0.0002 | 0.0002 | 0.0002 |
| -3.6 | 0.0002 | 0.0002 | 0.0001 | 0.0001 | 0.0001 | 0.0001 | 0.0001 | 0.0001 | 0.0001 | 0.0001 |
| -3.7 | 0.0001 | 0.0001 | 0.0001 | 0.0001 | 0.0001 | 0.0001 | 0.0001 | 0.0001 | 0.0001 | 0.0001 |
| -3.8 | 0.0001 | 0.0001 | 0.0001 | 0.0001 | 0.0001 | 0.0001 | 0.0001 | 0.0001 | 0.0001 | 0.0001 |