# **Tabla de Distribución Binomial**

### Función de Distribución Acumulada

Curso de Estadística de Tamara Burdisso. FCE - UBA

### Distribución Binomial con n=10 y p=0,25 $P(x<2) = P(x\leq 1)$ 0.30 0.25 0.20 0.15 0.10 0.05 0.00 0 1 2 3 4 5 6 7 8 9 10

|   | р | 0.01   | 0.05   | 0.10   | 0.15   | 0.20   | 0.25   | 0.30   | 0.35   | 0.40   | 0.45   | 0.49   | 0.50   |
|---|---|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| n | x |        |        |        |        |        |        |        |        |        |        |        |        |
| 2 | 0 | 0.9801 | 0.9025 | 0.8100 | 0.7225 | 0.6400 | 0.5625 | 0.4900 | 0.4225 | 0.3600 | 0.3025 | 0.2601 | 0.2500 |
|   | 1 | 0.9999 | 0.9975 | 0.9900 | 0.9775 | 0.9600 | 0.9375 | 0.9100 | 0.8775 | 0.8400 | 0.7975 | 0.7599 | 0.7500 |
|   | 2 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| 3 | 0 | 0.9703 | 0.8574 | 0.7290 | 0.6141 | 0.5120 | 0.4219 | 0.3430 | 0.2746 | 0.2160 | 0.1664 | 0.1327 | 0.1250 |
|   | 1 | 0.9997 | 0.9928 | 0.9720 | 0.9393 | 0.8960 | 0.8438 | 0.7840 | 0.7183 | 0.6480 | 0.5748 | 0.5150 | 0.5000 |
|   | 2 | 1.0000 | 0.9999 | 0.9990 | 0.9966 | 0.9920 | 0.9844 | 0.9730 | 0.9571 | 0.9360 | 0.9089 | 0.8824 | 0.8750 |
|   | 3 |        | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| 4 | 0 | 0.9606 | 0.8145 | 0.6561 | 0.5220 | 0.4096 | 0.3164 | 0.2401 | 0.1785 | 0.1296 | 0.0915 | 0.0677 | 0.0625 |
|   | 1 | 0.9994 | 0.9860 | 0.9477 | 0.8905 | 0.8192 | 0.7383 | 0.6517 | 0.5630 | 0.4752 | 0.3910 | 0.3276 | 0.3125 |
|   | 2 | 1.0000 | 0.9995 | 0.9963 | 0.9880 | 0.9728 | 0.9492 | 0.9163 | 0.8735 | 0.8208 | 0.7585 | 0.7023 | 0.6875 |
|   | 3 |        | 1.0000 | 0.9999 | 0.9995 | 0.9984 | 0.9961 | 0.9919 | 0.9850 | 0.9744 | 0.9590 | 0.9424 | 0.9375 |
|   | 4 |        |        | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| 5 | 0 | 0.9510 | 0.7738 | 0.5905 | 0.4437 | 0.3277 | 0.2373 | 0.1681 | 0.1160 | 0.0778 | 0.0503 | 0.0345 | 0.0313 |
|   | 1 | 0.9990 | 0.9774 | 0.9185 | 0.8352 | 0.7373 | 0.6328 | 0.5282 | 0.4284 | 0.3370 | 0.2562 | 0.2002 | 0.1875 |
|   | 2 | 1.0000 | 0.9988 | 0.9914 | 0.9734 | 0.9421 | 0.8965 | 0.8369 | 0.7648 | 0.6826 | 0.5931 | 0.5187 | 0.5000 |
|   | 3 |        | 1.0000 | 0.9995 | 0.9978 | 0.9933 | 0.9844 | 0.9692 | 0.9460 | 0.9130 | 0.8688 | 0.8248 | 0.8125 |
|   | 4 |        |        | 1.0000 | 0.9999 | 0.9997 | 0.9990 | 0.9976 | 0.9947 | 0.9898 | 0.9815 | 0.9718 | 0.9688 |
|   | 5 |        |        |        | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| 6 | 0 | 0.9415 | 0.7351 | 0.5314 | 0.3771 | 0.2621 | 0.1780 | 0.1176 | 0.0754 | 0.0467 | 0.0277 | 0.0176 | 0.0156 |
|   | 1 | 0.9985 | 0.9672 | 0.8857 | 0.7765 | 0.6554 | 0.5339 | 0.4202 | 0.3191 | 0.2333 | 0.1636 | 0.1190 | 0.1094 |
|   | 2 | 1.0000 | 0.9978 | 0.9842 | 0.9527 | 0.9011 | 0.8306 | 0.7443 | 0.6471 | 0.5443 | 0.4415 | 0.3627 | 0.3438 |
|   | 3 |        | 0.9999 | 0.9987 | 0.9941 | 0.9830 | 0.9624 | 0.9295 | 0.8826 | 0.8208 | 0.7447 | 0.6748 | 0.6563 |
|   | 4 |        | 1.0000 | 0.9999 | 0.9996 | 0.9984 | 0.9954 | 0.9891 | 0.9777 | 0.9590 | 0.9308 | 0.8997 | 0.8906 |
|   | 5 |        |        | 1.0000 | 1.0000 | 0.9999 | 0.9998 | 0.9993 | 0.9982 | 0.9959 | 0.9917 | 0.9862 | 0.9844 |
|   | 6 |        |        |        |        | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| 7 | 0 | 0.9321 | 0.6983 | 0.4783 | 0.3206 | 0.2097 | 0.1335 | 0.0824 | 0.0490 | 0.0280 | 0.0152 | 0.0090 | 0.0078 |
|   | 1 | 0.9980 | 0.9556 | 0.8503 | 0.7166 | 0.5767 | 0.4449 | 0.3294 | 0.2338 | 0.1586 | 0.1024 | 0.0693 | 0.0625 |
|   | 2 | 1.0000 | 0.9962 | 0.9743 | 0.9262 | 0.8520 | 0.7564 | 0.6471 | 0.5323 | 0.4199 | 0.3164 | 0.2433 | 0.2266 |
|   | 3 |        | 0.9998 | 0.9973 | 0.9879 | 0.9667 | 0.9294 | 0.8740 | 0.8002 | 0.7102 | 0.6083 | 0.5219 | 0.5000 |
|   | 4 |        | 1.0000 | 0.9998 | 0.9988 | 0.9953 | 0.9871 | 0.9712 | 0.9444 | 0.9037 | 0.8471 | 0.7895 | 0.7734 |
|   | 5 |        |        | 1.0000 | 0.9999 | 0.9996 | 0.9987 | 0.9962 | 0.9910 | 0.9812 | 0.9643 | 0.9438 | 0.9375 |
|   | 6 |        |        |        | 1.0000 | 1.0000 | 0.9999 | 0.9998 | 0.9994 | 0.9984 | 0.9963 | 0.9932 | 0.9922 |
|   | 7 |        |        |        |        |        | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
|   |   |        |        |        |        |        |        |        |        |        |        |        |        |

|    | р  | 0.01   | 0.05   | 0.10   | 0.15   | 0.20   | 0.25   | 0.30   | 0.35   | 0.40   | 0.45   | 0.49   | 0.50   |
|----|----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| n  | Х  | 0.02   | 0.00   | 00     | 0.1_0  | 00     | 00     | 0.00   | 0.00   | 00     | 00     |        |        |
| 8  | 0  | 0.9227 | 0.6634 | 0.4305 | 0.2725 | 0.1678 | 0.1001 | 0.0576 | 0.0319 | 0.0168 | 0.0084 | 0.0046 | 0.0039 |
|    | 1  | 0.9973 | 0.9428 | 0.8131 | 0.6572 | 0.5033 | 0.3671 | 0.2553 | 0.1691 | 0.1064 | 0.0632 | 0.0398 | 0.0352 |
|    | 2  | 0.9999 | 0.9942 | 0.9619 | 0.8948 | 0.7969 | 0.6785 | 0.5518 | 0.4278 | 0.3154 | 0.2201 | 0.1581 | 0.1445 |
|    | 3  | 1.0000 | 0.9996 | 0.9950 | 0.9786 | 0.9437 | 0.8862 | 0.8059 | 0.7064 | 0.5941 | 0.4770 | 0.3854 | 0.3633 |
|    | 4  |        | 1.0000 | 0.9996 | 0.9971 | 0.9896 | 0.9727 | 0.9420 | 0.8939 | 0.8263 | 0.7396 | 0.6584 | 0.6367 |
|    | 5  |        |        | 1.0000 | 0.9998 | 0.9988 | 0.9958 | 0.9887 | 0.9747 | 0.9502 | 0.9115 | 0.8682 | 0.8555 |
|    | 6  |        |        |        | 1.0000 | 0.9999 | 0.9996 | 0.9987 | 0.9964 | 0.9915 | 0.9819 | 0.9690 | 0.9648 |
|    | 7  |        |        |        |        | 1.0000 | 1.0000 | 0.9999 | 0.9998 | 0.9993 | 0.9983 | 0.9967 | 0.9961 |
|    | 8  |        |        |        |        |        |        | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| 9  | 0  | 0.9135 | 0.6302 | 0.3874 | 0.2316 | 0.1342 | 0.0751 | 0.0404 | 0.0207 | 0.0101 | 0.0046 | 0.0023 | 0.0020 |
|    | 1  | 0.9966 | 0.9288 | 0.7748 | 0.5995 | 0.4362 | 0.3003 | 0.1960 | 0.1211 | 0.0705 | 0.0385 | 0.0225 | 0.0195 |
|    | 2  | 0.9999 | 0.9916 | 0.9470 | 0.8591 | 0.7382 | 0.6007 | 0.4628 | 0.3373 | 0.2318 | 0.1495 | 0.1001 | 0.0898 |
|    | 3  | 1.0000 | 0.9994 | 0.9917 | 0.9661 | 0.9144 | 0.8343 | 0.7297 | 0.6089 | 0.4826 | 0.3614 | 0.2740 | 0.2539 |
|    | 4  |        | 1.0000 | 0.9991 | 0.9944 | 0.9804 | 0.9511 | 0.9012 | 0.8283 | 0.7334 | 0.6214 | 0.5246 | 0.5000 |
|    | 5  |        |        | 0.9999 | 0.9994 | 0.9969 | 0.9900 | 0.9747 | 0.9464 | 0.9006 | 0.8342 | 0.7654 | 0.7461 |
|    | 6  |        |        | 1.0000 | 1.0000 | 0.9997 | 0.9987 | 0.9957 | 0.9888 | 0.9750 | 0.9502 | 0.9196 | 0.9102 |
|    | 7  |        |        |        |        | 1.0000 | 0.9999 | 0.9996 | 0.9986 | 0.9962 | 0.9909 | 0.9831 | 0.9805 |
|    | 8  |        |        |        |        |        | 1.0000 | 1.0000 | 0.9999 | 0.9997 | 0.9992 | 0.9984 | 0.9980 |
|    | 9  |        |        |        |        |        |        |        | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| 10 | 0  | 0.9044 | 0.5987 | 0.3487 | 0.1969 | 0.1074 | 0.0563 | 0.0282 | 0.0135 | 0.0060 | 0.0025 | 0.0012 | 0.0010 |
|    | 1  | 0.9957 | 0.9139 | 0.7361 | 0.5443 | 0.3758 | 0.2440 | 0.1493 | 0.0860 | 0.0464 | 0.0233 | 0.0126 | 0.0107 |
|    | 2  | 0.9999 | 0.9885 | 0.9298 | 0.8202 | 0.6778 | 0.5256 | 0.3828 | 0.2616 | 0.1673 | 0.0996 | 0.0621 | 0.0547 |
|    | 3  | 1.0000 | 0.9990 | 0.9872 | 0.9500 | 0.8791 | 0.7759 | 0.6496 | 0.5138 | 0.3823 | 0.2660 | 0.1888 | 0.1719 |
|    | 4  |        | 0.9999 | 0.9984 | 0.9901 | 0.9672 | 0.9219 | 0.8497 | 0.7515 | 0.6331 | 0.5044 | 0.4018 | 0.3770 |
|    | 5  |        | 1.0000 | 0.9999 | 0.9986 | 0.9936 | 0.9803 | 0.9527 | 0.9051 | 0.8338 | 0.7384 | 0.6474 | 0.6230 |
|    | 6  |        |        | 1.0000 | 0.9999 | 0.9991 | 0.9965 | 0.9894 | 0.9740 | 0.9452 | 0.8980 | 0.8440 | 0.8281 |
|    | 7  |        |        |        | 1.0000 | 0.9999 | 0.9996 | 0.9984 | 0.9952 | 0.9877 | 0.9726 | 0.9520 | 0.9453 |
|    | 8  |        |        |        |        | 1.0000 | 1.0000 | 0.9999 | 0.9995 | 0.9983 | 0.9955 | 0.9909 | 0.9893 |
|    | 9  |        |        |        |        |        |        | 1.0000 | 1.0000 | 0.9999 | 0.9997 | 0.9992 | 0.9990 |
|    | 10 |        |        |        |        |        |        |        |        | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| 11 | 0  | 0.8953 | 0.5688 | 0.3138 | 0.1673 | 0.0859 | 0.0422 | 0.0198 | 0.0088 | 0.0036 | 0.0014 | 0.0006 | 0.0005 |
|    | 1  | 0.9948 | 0.8981 | 0.6974 | 0.4922 | 0.3221 | 0.1971 | 0.1130 | 0.0606 | 0.0302 | 0.0139 | 0.0070 | 0.0059 |
|    | 2  | 0.9998 | 0.9848 | 0.9104 | 0.7788 | 0.6174 | 0.4552 | 0.3127 | 0.2001 | 0.1189 | 0.0652 | 0.0378 | 0.0327 |
|    | 3  | 1.0000 | 0.9984 | 0.9815 | 0.9306 | 0.8389 | 0.7133 | 0.5696 | 0.4256 | 0.2963 | 0.1911 | 0.1267 | 0.1133 |
|    | 4  |        | 0.9999 | 0.9972 | 0.9841 | 0.9496 | 0.8854 | 0.7897 | 0.6683 | 0.5328 | 0.3971 | 0.2974 | 0.2744 |
|    | 5  |        | 1.0000 | 0.9997 | 0.9973 | 0.9883 | 0.9657 | 0.9218 | 0.8513 | 0.7535 | 0.6331 | 0.5271 | 0.5000 |
|    | 6  |        |        | 1.0000 | 0.9997 | 0.9980 | 0.9924 | 0.9784 | 0.9499 | 0.9006 | 0.8262 | 0.7477 | 0.7256 |
|    | 7  |        |        |        | 1.0000 | 0.9998 | 0.9988 | 0.9957 | 0.9878 | 0.9707 | 0.9390 | 0.8991 | 0.8867 |
|    | 8  |        |        |        |        | 1.0000 | 0.9999 | 0.9994 | 0.9980 | 0.9941 | 0.9852 | 0.9718 | 0.9673 |
|    | 9  |        |        |        |        |        | 1.0000 | 1.0000 | 0.9998 | 0.9993 | 0.9978 | 0.9951 | 0.9941 |
|    | 10 |        |        |        |        |        |        |        | 1.0000 | 1.0000 | 0.9998 | 0.9996 | 0.9995 |
|    | 11 |        |        |        |        |        |        |        |        |        | 1.0000 | 1.0000 | 1.0000 |

|    | р  | 0.01   | 0.05   | 0.10   | 0.15   | 0.20   | 0.25   | 0.30   | 0.35   | 0.40   | 0.45   | 0.49   | 0.50   |
|----|----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| n  | x  |        |        |        |        |        |        |        |        |        |        |        |        |
| 12 | 0  | 0.8864 | 0.5404 | 0.2824 | 0.1422 | 0.0687 | 0.0317 | 0.0138 | 0.0057 | 0.0022 | 0.0008 | 0.0003 | 0.0002 |
|    | 1  | 0.9938 | 0.8816 | 0.6590 | 0.4435 | 0.2749 | 0.1584 | 0.0850 | 0.0424 | 0.0196 | 0.0083 | 0.0039 | 0.0032 |
|    | 2  | 0.9998 | 0.9804 | 0.8891 | 0.7358 | 0.5583 | 0.3907 | 0.2528 | 0.1513 | 0.0834 | 0.0421 | 0.0227 | 0.0193 |
|    | 3  | 1.0000 | 0.9978 | 0.9744 | 0.9078 | 0.7946 | 0.6488 | 0.4925 | 0.3467 | 0.2253 | 0.1345 | 0.0832 | 0.0730 |
|    | 4  |        | 0.9998 | 0.9957 | 0.9761 | 0.9274 | 0.8424 | 0.7237 | 0.5833 | 0.4382 | 0.3044 | 0.2138 | 0.1938 |
|    | 5  |        | 1.0000 | 0.9995 | 0.9954 | 0.9806 | 0.9456 | 0.8822 | 0.7873 | 0.6652 | 0.5269 | 0.4145 | 0.3872 |
|    | 6  |        |        | 0.9999 | 0.9993 | 0.9961 | 0.9857 | 0.9614 | 0.9154 | 0.8418 | 0.7393 | 0.6396 | 0.6128 |
|    | 7  |        |        | 1.0000 | 0.9999 | 0.9994 | 0.9972 | 0.9905 | 0.9745 | 0.9427 | 0.8883 | 0.8249 | 0.8062 |
|    | 8  |        |        |        | 1.0000 | 0.9999 | 0.9996 | 0.9983 | 0.9944 | 0.9847 | 0.9644 | 0.9362 | 0.9270 |
|    | 9  |        |        |        |        | 1.0000 | 1.0000 | 0.9998 | 0.9992 | 0.9972 | 0.9921 | 0.9837 | 0.9807 |
|    | 10 |        |        |        |        |        |        | 1.0000 | 0.9999 | 0.9997 | 0.9989 | 0.9974 | 0.9968 |
|    | 11 |        |        |        |        |        |        |        | 1.0000 | 1.0000 | 0.9999 | 0.9998 | 0.9998 |
|    | 12 |        |        |        |        |        |        |        |        |        | 1.0000 | 1.0000 | 1.0000 |
| 13 | 0  | 0.8775 | 0.5133 | 0.2542 | 0.1209 | 0.0550 | 0.0238 | 0.0097 | 0.0037 | 0.0013 | 0.0004 | 0.0002 | 0.0001 |
|    | 1  | 0.9928 | 0.8646 | 0.6213 | 0.3983 | 0.2336 | 0.1267 | 0.0637 | 0.0296 | 0.0126 | 0.0049 | 0.0021 | 0.0017 |
|    | 2  | 0.9997 | 0.9755 | 0.8661 | 0.6920 | 0.5017 | 0.3326 | 0.2025 | 0.1132 | 0.0579 | 0.0269 | 0.0135 | 0.0112 |
|    | 3  | 1.0000 | 0.9969 | 0.9658 | 0.8820 | 0.7473 | 0.5843 | 0.4206 | 0.2783 | 0.1686 | 0.0929 | 0.0536 | 0.0461 |
|    | 4  |        | 0.9997 | 0.9935 | 0.9658 | 0.9009 | 0.7940 | 0.6543 | 0.5005 | 0.3530 | 0.2279 | 0.1498 | 0.1334 |
|    | 5  |        | 1.0000 | 0.9991 | 0.9925 | 0.9700 | 0.9198 | 0.8346 | 0.7159 | 0.5744 | 0.4268 | 0.3162 | 0.2905 |
|    | 6  |        |        | 0.9999 | 0.9987 | 0.9930 | 0.9757 | 0.9376 | 0.8705 | 0.7712 | 0.6437 | 0.5293 | 0.5000 |
|    | 7  |        |        | 1.0000 | 0.9998 | 0.9988 | 0.9944 | 0.9818 | 0.9538 | 0.9023 | 0.8212 | 0.7341 | 0.7095 |
|    | 8  |        |        |        | 1.0000 | 0.9998 | 0.9990 | 0.9960 | 0.9874 | 0.9679 | 0.9302 | 0.8817 | 0.8666 |
|    | 9  |        |        |        |        | 1.0000 | 0.9999 | 0.9993 | 0.9975 | 0.9922 | 0.9797 | 0.9604 | 0.9539 |
|    | 10 |        |        |        |        |        | 1.0000 | 0.9999 | 0.9997 | 0.9987 | 0.9959 | 0.9907 | 0.9888 |
|    | 11 |        |        |        |        |        |        | 1.0000 | 1.0000 | 0.9999 | 0.9995 | 0.9986 | 0.9983 |
|    | 12 |        |        |        |        |        |        |        |        | 1.0000 | 1.0000 | 0.9999 | 0.9999 |
|    | 13 |        |        |        |        |        |        |        |        |        |        | 1.0000 | 1.0000 |
| 14 | 0  | 0.8687 | 0.4877 | 0.2288 | 0.1028 | 0.0440 | 0.0178 | 0.0068 | 0.0024 | 0.0008 | 0.0002 | 0.0001 | 0.0001 |
|    | 1  | 0.9916 | 0.8470 | 0.5846 | 0.3567 | 0.1979 | 0.1010 | 0.0475 | 0.0205 | 0.0081 | 0.0029 | 0.0012 | 0.0009 |
|    | 2  | 0.9997 | 0.9699 | 0.8416 | 0.6479 | 0.4481 | 0.2811 | 0.1608 | 0.0839 | 0.0398 | 0.0170 | 0.0079 | 0.0065 |
|    | 3  | 1.0000 | 0.9958 | 0.9559 | 0.8535 | 0.6982 | 0.5213 | 0.3552 | 0.2205 | 0.1243 | 0.0632 | 0.0339 | 0.0287 |
|    | 4  |        | 0.9996 | 0.9908 | 0.9533 | 0.8702 | 0.7415 | 0.5842 | 0.4227 | 0.2793 | 0.1672 | 0.1026 | 0.0898 |
|    | 5  |        | 1.0000 | 0.9985 | 0.9885 | 0.9561 | 0.8883 | 0.7805 | 0.6405 | 0.4859 | 0.3373 | 0.2346 | 0.2120 |
|    | 6  |        |        | 0.9998 | 0.9978 | 0.9884 | 0.9617 | 0.9067 | 0.8164 | 0.6925 | 0.5461 | 0.4249 | 0.3953 |
|    | 7  |        |        | 1.0000 | 0.9997 | 0.9976 | 0.9897 | 0.9685 | 0.9247 | 0.8499 | 0.7414 | 0.6337 | 0.6047 |
|    | 8  |        |        |        | 1.0000 | 0.9996 | 0.9978 | 0.9917 | 0.9757 | 0.9417 | 0.8811 | 0.8094 | 0.7880 |
|    | 9  |        |        |        |        | 1.0000 | 0.9997 | 0.9983 | 0.9940 | 0.9825 | 0.9574 | 0.9218 | 0.9102 |
|    | 10 |        |        |        |        |        | 1.0000 | 0.9998 | 0.9989 | 0.9961 | 0.9886 | 0.9759 | 0.9713 |
|    | 11 |        |        |        |        |        |        | 1.0000 | 0.9999 | 0.9994 | 0.9978 | 0.9947 | 0.9935 |
|    | 12 |        |        |        |        |        |        |        | 1.0000 | 0.9999 | 0.9997 | 0.9993 | 0.9991 |
|    | 13 |        |        |        |        |        |        |        |        | 1.0000 | 1.0000 | 1.0000 | 0.9999 |
|    | 14 |        |        |        |        |        |        |        |        |        |        |        | 1.0000 |

# Tabla de Distribución de Poisson

### Función de Distribución Acumulada

Curso de Estadística de Tamara Burdisso. FCE - UBA

# 0.15 P(x<8) = P(x≤7) 0.10 - 0.05 - 0.00

8 10 12 14 16 18 20 22 24

Distribución de Poisson con λ=10

| λ=μ | 0.1    | 0.2    | 0.3    | 0.4    | 0.5    | 0.6    | 0.7    | 0.8    | 0.9    | 1      | 1.50   | 2.00   |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| х   |        |        |        |        |        |        |        |        |        |        |        |        |
| 0   | 0.9048 | 0.8187 | 0.7408 | 0.6703 | 0.6065 | 0.5488 | 0.4966 | 0.4493 | 0.4066 | 0.3679 | 0.2231 | 0.1353 |
| 1   | 0.9953 | 0.9825 | 0.9631 | 0.9384 | 0.9098 | 0.8781 | 0.8442 | 0.8088 | 0.7725 | 0.7358 | 0.5578 | 0.4060 |
| 2   | 0.9998 | 0.9989 | 0.9964 | 0.9921 | 0.9856 | 0.9769 | 0.9659 | 0.9526 | 0.9371 | 0.9197 | 0.8088 | 0.6767 |
| 3   | 1.0000 | 0.9999 | 0.9997 | 0.9992 | 0.9982 | 0.9966 | 0.9942 | 0.9909 | 0.9865 | 0.9810 | 0.9344 | 0.8571 |
| 4   |        | 1.0000 | 1.0000 | 0.9999 | 0.9998 | 0.9996 | 0.9992 | 0.9986 | 0.9977 | 0.9963 | 0.9814 | 0.9473 |
| 5   |        |        |        | 1.0000 | 1.0000 | 1.0000 | 0.9999 | 0.9998 | 0.9997 | 0.9994 | 0.9955 | 0.9834 |
| 6   |        |        |        |        |        |        | 1.0000 | 1.0000 | 1.0000 | 0.9999 | 0.9991 | 0.9955 |
| 7   |        |        |        |        |        |        |        |        |        | 1.0000 | 0.9998 | 0.9989 |
| 8   |        |        |        |        |        |        |        |        |        |        | 1.0000 | 0.9998 |
| 9   |        |        |        |        |        |        |        |        |        |        |        | 1.0000 |

| λ=μ | 2.5    | 3      | 3.5    | 4      | 4.5    | 5      | 5.5    | 6      | 6.5    | 7      | 7.5    | 8      |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| х   |        |        |        |        |        |        |        |        |        |        |        |        |
| 0   | 0.0821 | 0.0498 | 0.0302 | 0.0183 | 0.0111 | 0.0067 | 0.0041 | 0.0025 | 0.0015 | 0.0009 | 0.0006 | 0.0003 |
| 1   | 0.2873 | 0.1991 | 0.1359 | 0.0916 | 0.0611 | 0.0404 | 0.0266 | 0.0174 | 0.0113 | 0.0073 | 0.0047 | 0.0030 |
| 2   | 0.5438 | 0.4232 | 0.3208 | 0.2381 | 0.1736 | 0.1247 | 0.0884 | 0.0620 | 0.0430 | 0.0296 | 0.0203 | 0.0138 |
| 3   | 0.7576 | 0.6472 | 0.5366 | 0.4335 | 0.3423 | 0.2650 | 0.2017 | 0.1512 | 0.1118 | 0.0818 | 0.0591 | 0.0424 |
| 4   | 0.8912 | 0.8153 | 0.7254 | 0.6288 | 0.5321 | 0.4405 | 0.3575 | 0.2851 | 0.2237 | 0.1730 | 0.1321 | 0.0996 |
| 5   | 0.9580 | 0.9161 | 0.8576 | 0.7851 | 0.7029 | 0.6160 | 0.5289 | 0.4457 | 0.3690 | 0.3007 | 0.2414 | 0.1912 |
| 6   | 0.9858 | 0.9665 | 0.9347 | 0.8893 | 0.8311 | 0.7622 | 0.6860 | 0.6063 | 0.5265 | 0.4497 | 0.3782 | 0.3134 |
| 7   | 0.9958 | 0.9881 | 0.9733 | 0.9489 | 0.9134 | 0.8666 | 0.8095 | 0.7440 | 0.6728 | 0.5987 | 0.5246 | 0.4530 |
| 8   | 0.9989 | 0.9962 | 0.9901 | 0.9786 | 0.9597 | 0.9319 | 0.8944 | 0.8472 | 0.7916 | 0.7291 | 0.6620 | 0.5925 |
| 9   | 0.9997 | 0.9989 | 0.9967 | 0.9919 | 0.9829 | 0.9682 | 0.9462 | 0.9161 | 0.8774 | 0.8305 | 0.7764 | 0.7166 |
| 10  | 0.9999 | 0.9997 | 0.9990 | 0.9972 | 0.9933 | 0.9863 | 0.9747 | 0.9574 | 0.9332 | 0.9015 | 0.8622 | 0.8159 |
| 11  | 1.0000 | 0.9999 | 0.9997 | 0.9991 | 0.9976 | 0.9945 | 0.9890 | 0.9799 | 0.9661 | 0.9467 | 0.9208 | 0.8881 |
| 12  |        | 1.0000 | 0.9999 | 0.9997 | 0.9992 | 0.9980 | 0.9955 | 0.9912 | 0.9840 | 0.9730 | 0.9573 | 0.9362 |
| 13  |        |        | 1.0000 | 0.9999 | 0.9997 | 0.9993 | 0.9983 | 0.9964 | 0.9929 | 0.9872 | 0.9784 | 0.9658 |
| 14  |        |        |        | 1.0000 | 0.9999 | 0.9998 | 0.9994 | 0.9986 | 0.9970 | 0.9943 | 0.9897 | 0.9827 |
| 15  |        |        |        |        | 1.0000 | 0.9999 | 0.9998 | 0.9995 | 0.9988 | 0.9976 | 0.9954 | 0.9918 |
| 16  |        |        |        |        |        | 1.0000 | 0.9999 | 0.9998 | 0.9996 | 0.9990 | 0.9980 | 0.9963 |
| 17  |        |        |        |        |        |        | 1.0000 | 0.9999 | 0.9998 | 0.9996 | 0.9992 | 0.9984 |
| 18  |        |        |        |        |        |        |        | 1.0000 | 0.9999 | 0.9999 | 0.9997 | 0.9993 |
| 19  |        |        |        |        |        |        |        |        | 1.0000 | 1.0000 | 0.9999 | 0.9997 |
| 20  |        |        |        |        |        |        |        |        |        |        | 1.0000 | 0.9999 |
| 21  |        |        |        |        |        |        |        |        |        |        |        | 1.0000 |

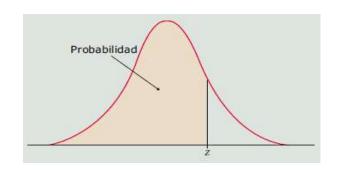
| λ=μ | 8.5    | 9      | 9.5    | 10     | 10.5   | 11     | 11.5   | 12     | 12.5   | 13     | 13.5   | 14     |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| х   |        |        |        |        |        |        |        |        |        |        |        |        |
| 0   | 0.0002 | 0.0001 | 0.0001 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |        |        |        |
| 1   | 0.0019 | 0.0012 | 0.0008 | 0.0005 | 0.0003 | 0.0002 | 0.0001 | 0.0001 | 0.0001 | 0.0000 | 0.0000 | 0.0000 |
| 2   | 0.0093 | 0.0062 | 0.0042 | 0.0028 | 0.0018 | 0.0012 | 0.0008 | 0.0005 | 0.0003 | 0.0002 | 0.0001 | 0.0001 |
| 3   | 0.0301 | 0.0212 | 0.0149 | 0.0103 | 0.0071 | 0.0049 | 0.0034 | 0.0023 | 0.0016 | 0.0011 | 0.0007 | 0.0005 |
| 4   | 0.0744 | 0.0550 | 0.0403 | 0.0293 | 0.0211 | 0.0151 | 0.0107 | 0.0076 | 0.0053 | 0.0037 | 0.0026 | 0.0018 |
| 5   | 0.1496 | 0.1157 | 0.0885 | 0.0671 | 0.0504 | 0.0375 | 0.0277 | 0.0203 | 0.0148 | 0.0107 | 0.0077 | 0.0055 |
| 6   | 0.2562 | 0.2068 | 0.1649 | 0.1301 | 0.1016 | 0.0786 | 0.0603 | 0.0458 | 0.0346 | 0.0259 | 0.0193 | 0.0142 |
| 7   | 0.3856 | 0.3239 | 0.2687 | 0.2202 | 0.1785 | 0.1432 | 0.1137 | 0.0895 | 0.0698 | 0.0540 | 0.0415 | 0.0316 |
| 8   | 0.5231 | 0.4557 | 0.3918 | 0.3328 | 0.2794 | 0.2320 | 0.1906 | 0.1550 | 0.1249 | 0.0998 | 0.0790 | 0.0621 |
| 9   | 0.6530 | 0.5874 | 0.5218 | 0.4579 | 0.3971 | 0.3405 | 0.2888 | 0.2424 | 0.2014 | 0.1658 | 0.1353 | 0.1094 |
| 10  | 0.7634 | 0.7060 | 0.6453 | 0.5830 | 0.5207 | 0.4599 | 0.4017 | 0.3472 | 0.2971 | 0.2517 | 0.2112 | 0.1757 |
| 11  | 0.8487 | 0.8030 | 0.7520 | 0.6968 | 0.6387 | 0.5793 | 0.5198 | 0.4616 | 0.4058 | 0.3532 | 0.3045 | 0.2600 |
| 12  | 0.9091 | 0.8758 | 0.8364 | 0.7916 | 0.7420 | 0.6887 | 0.6329 | 0.5760 | 0.5190 | 0.4631 | 0.4093 | 0.3585 |
| 13  | 0.9486 | 0.9261 | 0.8981 | 0.8645 | 0.8253 | 0.7813 | 0.7330 | 0.6815 | 0.6278 | 0.5730 | 0.5182 | 0.4644 |
| 14  | 0.9726 | 0.9585 | 0.9400 | 0.9165 | 0.8879 | 0.8540 | 0.8153 | 0.7720 | 0.7250 | 0.6751 | 0.6233 | 0.5704 |
| 15  | 0.9862 | 0.9780 | 0.9665 | 0.9513 | 0.9317 | 0.9074 | 0.8783 | 0.8444 | 0.8060 | 0.7636 | 0.7178 | 0.6694 |
| 16  | 0.9934 | 0.9889 | 0.9823 | 0.9730 | 0.9604 | 0.9441 | 0.9236 | 0.8987 | 0.8693 | 0.8355 | 0.7975 | 0.7559 |
| 17  | 0.9970 | 0.9947 | 0.9911 | 0.9857 | 0.9781 | 0.9678 | 0.9542 | 0.9370 | 0.9158 | 0.8905 | 0.8609 | 0.8272 |
| 18  | 0.9987 | 0.9976 | 0.9957 | 0.9928 | 0.9885 | 0.9823 | 0.9738 | 0.9626 | 0.9481 | 0.9302 | 0.9084 | 0.8826 |
| 19  | 0.9995 | 0.9989 | 0.9980 | 0.9965 | 0.9942 | 0.9907 | 0.9857 | 0.9787 | 0.9694 | 0.9573 | 0.9421 | 0.9235 |
| 20  | 0.9998 | 0.9996 | 0.9991 | 0.9984 | 0.9972 | 0.9953 | 0.9925 | 0.9884 | 0.9827 | 0.9750 | 0.9649 | 0.9521 |
| 21  | 0.9999 | 0.9998 | 0.9996 | 0.9993 | 0.9987 | 0.9977 | 0.9962 | 0.9939 | 0.9906 | 0.9859 | 0.9796 | 0.9712 |
| 22  | 1.0000 | 0.9999 | 0.9999 | 0.9997 | 0.9994 | 0.9990 | 0.9982 | 0.9970 | 0.9951 | 0.9924 | 0.9885 | 0.9833 |
| 23  |        | 1.0000 | 0.9999 | 0.9999 | 0.9998 | 0.9995 | 0.9992 | 0.9985 | 0.9975 | 0.9960 | 0.9938 | 0.9907 |
| 24  |        |        | 1.0000 | 1.0000 | 0.9999 | 0.9998 | 0.9996 | 0.9993 | 0.9988 | 0.9980 | 0.9968 | 0.9950 |
| 25  |        |        |        |        | 1.0000 | 0.9999 | 0.9998 | 0.9997 | 0.9994 | 0.9990 | 0.9984 | 0.9974 |
| 26  |        |        |        |        |        | 1.0000 | 0.9999 | 0.9999 | 0.9997 | 0.9995 | 0.9992 | 0.9987 |
| 27  |        |        |        |        |        |        | 1.0000 | 0.9999 | 0.9999 | 0.9998 | 0.9996 | 0.9994 |
| 28  |        |        |        |        |        |        |        | 1.0000 | 1.0000 | 0.9999 | 0.9998 | 0.9997 |
| 29  |        |        |        |        |        |        |        |        |        | 1.0000 | 0.9999 | 0.9999 |
| 30  |        |        |        |        |        |        |        |        |        |        | 1.0000 | 0.9999 |
| 31  |        |        |        |        |        |        |        |        |        |        |        | 1.0000 |

| λ=μ<br>x | 15     | 16     | 17     | 18     | 19     | 20     | 21     | 22     | 23     | 24     | 25     | 26     |
|----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 2        | 0.0000 | 0.0000 |        |        |        |        |        |        |        |        |        |        |
| 3        | 0.0002 | 0.0001 | 0.0000 | 0.0000 |        |        |        |        |        |        |        |        |
| 4        | 0.0009 | 0.0004 | 0.0002 | 0.0001 | 0.0000 | 0.0000 |        |        |        |        |        |        |
| 5        | 0.0028 | 0.0014 | 0.0007 | 0.0003 | 0.0002 | 0.0001 | 0.0000 | 0.0000 |        |        |        |        |
| 6        | 0.0076 | 0.0040 | 0.0021 | 0.0010 | 0.0005 | 0.0003 | 0.0001 | 0.0001 | 0.0000 |        |        |        |
| 7        | 0.0180 | 0.0100 | 0.0054 | 0.0029 | 0.0015 | 0.0008 | 0.0004 | 0.0002 | 0.0001 | 0.0000 | 0.0000 |        |
| 8        | 0.0374 | 0.0220 | 0.0126 | 0.0071 | 0.0039 | 0.0021 | 0.0011 | 0.0006 | 0.0003 | 0.0002 | 0.0001 | 0.0000 |
| 9        | 0.0699 | 0.0433 | 0.0261 | 0.0154 | 0.0089 | 0.0050 | 0.0028 | 0.0015 | 0.0008 | 0.0004 | 0.0002 | 0.0001 |
| 10       | 0.1185 | 0.0774 | 0.0491 | 0.0304 | 0.0183 | 0.0108 | 0.0063 | 0.0035 | 0.0020 | 0.0011 | 0.0006 | 0.0003 |
| 11       | 0.1848 | 0.1270 | 0.0847 | 0.0549 | 0.0347 | 0.0214 | 0.0129 | 0.0076 | 0.0044 | 0.0025 | 0.0014 | 0.0008 |
| 12       | 0.2676 | 0.1931 | 0.1350 | 0.0917 | 0.0606 | 0.0390 | 0.0245 | 0.0151 | 0.0091 | 0.0054 | 0.0031 | 0.0018 |
| 13       | 0.3632 | 0.2745 | 0.2009 | 0.1426 | 0.0984 | 0.0661 | 0.0434 | 0.0278 | 0.0174 | 0.0107 | 0.0065 | 0.0038 |
| 14       | 0.4657 | 0.3675 | 0.2808 | 0.2081 | 0.1497 | 0.1049 | 0.0716 | 0.0477 | 0.0311 | 0.0198 | 0.0124 | 0.0076 |
| 15       | 0.5681 | 0.4667 | 0.3715 | 0.2867 | 0.2148 | 0.1565 | 0.1111 | 0.0769 | 0.0520 | 0.0344 | 0.0223 | 0.0142 |
| 16       | 0.6641 | 0.5660 | 0.4677 | 0.3751 | 0.2920 | 0.2211 | 0.1629 | 0.1170 | 0.0821 | 0.0563 | 0.0377 | 0.0248 |
| 17       | 0.7489 | 0.6593 | 0.5640 | 0.4686 | 0.3784 | 0.2970 | 0.2270 | 0.1690 | 0.1228 | 0.0871 | 0.0605 | 0.0411 |
| 18       | 0.8195 | 0.7423 | 0.6550 | 0.5622 | 0.4695 | 0.3814 | 0.3017 | 0.2325 | 0.1748 | 0.1283 | 0.0920 | 0.0646 |
| 19       | 0.8752 | 0.8122 | 0.7363 | 0.6509 | 0.5606 | 0.4703 | 0.3843 | 0.3060 | 0.2377 | 0.1803 | 0.1336 | 0.0968 |
| 20       | 0.9170 | 0.8682 | 0.8055 | 0.7307 | 0.6472 | 0.5591 | 0.4710 | 0.3869 | 0.3101 | 0.2426 | 0.1855 | 0.1387 |
| 21       | 0.9469 | 0.9108 | 0.8615 | 0.7991 | 0.7255 | 0.6437 | 0.5577 | 0.4716 | 0.3894 | 0.3139 | 0.2473 | 0.1905 |
| 22       | 0.9673 | 0.9418 | 0.9047 | 0.8551 | 0.7931 | 0.7206 | 0.6405 | 0.5564 | 0.4723 | 0.3917 | 0.3175 | 0.2517 |
| 23       | 0.9805 | 0.9633 | 0.9367 | 0.8989 | 0.8490 | 0.7875 | 0.7160 | 0.6374 | 0.5551 | 0.4728 | 0.3939 | 0.3209 |
| 24       | 0.9888 | 0.9777 | 0.9594 | 0.9317 | 0.8933 | 0.8432 | 0.7822 | 0.7117 | 0.6346 | 0.5540 | 0.4734 | 0.3959 |
| 25       | 0.9938 | 0.9869 | 0.9748 | 0.9554 | 0.9269 | 0.8878 | 0.8377 | 0.7771 | 0.7077 | 0.6319 | 0.5529 | 0.4739 |
| 26       | 0.9967 | 0.9925 | 0.9848 | 0.9718 | 0.9514 | 0.9221 | 0.8826 | 0.8324 | 0.7723 | 0.7038 | 0.6294 | 0.5519 |
| 27       | 0.9983 | 0.9959 | 0.9912 | 0.9827 | 0.9687 | 0.9475 | 0.9175 | 0.8775 | 0.8274 | 0.7677 | 0.7002 | 0.6270 |
| 28       | 0.9991 | 0.9978 | 0.9950 | 0.9897 | 0.9805 | 0.9657 | 0.9436 | 0.9129 | 0.8726 | 0.8225 | 0.7634 | 0.6967 |
| 29       | 0.9996 | 0.9989 | 0.9973 | 0.9941 | 0.9882 | 0.9782 | 0.9626 | 0.9398 | 0.9085 | 0.8679 | 0.8179 | 0.7593 |
| 30       | 0.9998 | 0.9994 | 0.9986 | 0.9967 | 0.9930 | 0.9865 | 0.9758 | 0.9595 | 0.9360 | 0.9042 | 0.8633 | 0.8134 |
| 31       | 0.9999 | 0.9997 | 0.9993 | 0.9982 | 0.9960 | 0.9919 | 0.9848 | 0.9735 | 0.9564 | 0.9322 | 0.8999 | 0.8589 |
| 32       | 1.0000 | 0.9999 | 0.9996 | 0.9990 | 0.9978 | 0.9953 | 0.9907 | 0.9831 | 0.9711 | 0.9533 | 0.9285 | 0.8958 |
| 33       | 2.0000 | 0.9999 | 0.9998 | 0.9995 | 0.9988 | 0.9973 | 0.9945 | 0.9895 | 0.9813 | 0.9686 | 0.9502 | 0.9249 |
| 34       |        | 1.0000 | 0.9999 | 0.9998 | 0.9994 | 0.9985 | 0.9968 | 0.9936 | 0.9882 | 0.9794 | 0.9662 | 0.9472 |
| 35       |        | 1.0000 | 1.0000 | 0.9999 | 0.9997 | 0.9992 | 0.9982 | 0.9962 | 0.9927 | 0.9868 | 0.9775 | 0.9637 |
| 36       |        |        | 1.0000 | 0.9999 | 0.9998 | 0.9996 | 0.9990 | 0.9978 | 0.9956 | 0.9918 | 0.9854 | 0.9756 |
| 37       |        |        |        | 1.0000 | 0.9999 | 0.9998 | 0.9995 | 0.9988 | 0.9974 | 0.9950 | 0.9908 | 0.9840 |
| 38       |        |        |        | 1.0000 | 1.0000 | 0.9999 | 0.9997 | 0.9993 | 0.9985 | 0.9970 | 0.9943 | 0.9897 |
| 39       |        |        |        |        | 1.0000 | 0.9999 | 0.9999 | 0.9996 | 0.9992 | 0.9983 | 0.9966 | 0.9936 |
| 40       |        |        |        |        |        | 1.0000 | 0.9999 | 0.9998 | 0.9992 | 0.9983 | 0.9980 | 0.9936 |
|          |        |        |        |        |        | 1.0000 |        |        |        |        |        |        |
| 41       |        |        |        |        |        |        | 1.0000 | 0.9999 | 0.9998 | 0.9995 | 0.9988 | 0.9976 |
| 42       | 1      |        |        |        |        |        |        | 1.0000 | 0.9999 | 0.9997 | 0.9993 | 0.9986 |
| 43       | 1      |        |        |        |        |        |        |        | 0.9999 | 0.9998 | 0.9996 | 0.9992 |
| 44       | 1      |        |        |        |        |        |        |        | 1.0000 | 0.9999 | 0.9998 | 0.9996 |
| 45       |        |        |        |        |        |        |        |        |        | 1.0000 | 0.9999 | 0.9998 |
| 46       |        |        |        |        |        |        |        |        |        |        | 0.9999 | 0.9999 |
| 47       |        |        |        |        |        |        |        |        |        |        | 1.0000 | 0.9999 |
| 48       |        |        |        |        |        |        |        |        |        |        |        | 1.0000 |

# Tabla de Distribución Normal Estándar

### Función de Distribución Acumulada

Curso de Estadística de Tamara Burdisso. FCE - UBA

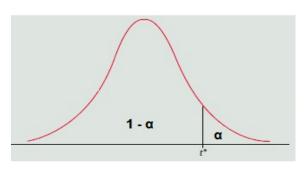


| z   | .00    | .01    | .02    | .03    | .04    | .05    | .06    | .07    | .08    | .09    |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0.0 | 0.5000 | 0.5040 | 0.5080 | 0.5120 | 0.5160 | 0.5199 | 0.5239 | 0.5279 | 0.5319 | 0.5359 |
| 0.1 | 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 |

# Tabla de Distribución t de Student

## Función de Distribución Acumulada

Curso de Estadística de Tamara Burdisso. FCE - UBA



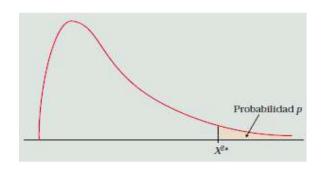
1 - α

| gl  | 0.70   | 0.75   | 0.80   | 0.85   | 0.90   | 0.95   | 0.975   | 0.990   | 0.995   | 0.999   |
|-----|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|
| 1   | 0.7265 | 1.0000 | 1.3764 | 1.9626 | 3.0777 | 6.3138 | 12.7062 | 31.8205 | 63.6567 | 318.309 |
| 2   | 0.6172 | 0.8165 | 1.0607 | 1.3862 | 1.8856 | 2.9200 | 4.3027  | 6.9646  | 9.9248  | 22.327  |
| 3   | 0.5844 | 0.7649 | 0.9785 | 1.2498 | 1.6377 | 2.3534 | 3.1824  | 4.5407  | 5.8409  | 10.215  |
| 4   | 0.5686 | 0.7407 | 0.9410 | 1.1896 | 1.5332 | 2.1318 | 2.7764  | 3.7469  | 4.6041  | 7.173   |
| 5   | 0.5594 | 0.7267 | 0.9195 | 1.1558 | 1.4759 | 2.0150 | 2.5706  | 3.3649  | 4.0321  | 5.893   |
| 6   | 0.5534 | 0.7176 | 0.9057 | 1.1342 | 1.4398 | 1.9432 | 2.4469  | 3.1427  | 3.7074  | 5.208   |
| 7   | 0.5491 | 0.7111 | 0.8960 | 1.1192 | 1.4149 | 1.8946 | 2.3646  | 2.9980  | 3.4995  | 4.785   |
| 8   | 0.5459 | 0.7064 | 0.8889 | 1.1081 | 1.3968 | 1.8595 | 2.3060  | 2.8965  | 3.3554  | 4.501   |
| 9   | 0.5435 | 0.7027 | 0.8834 | 1.0997 | 1.3830 | 1.8331 | 2.2622  | 2.8214  | 3.2498  | 4.297   |
| 10  | 0.5415 | 0.6998 | 0.8791 | 1.0931 | 1.3722 | 1.8125 | 2.2281  | 2.7638  | 3.1693  | 4.144   |
| 11  | 0.5399 | 0.6974 | 0.8755 | 1.0877 | 1.3634 | 1.7959 | 2.2010  | 2.7181  | 3.1058  | 4.025   |
| 12  | 0.5386 | 0.6955 | 0.8726 | 1.0832 | 1.3562 | 1.7823 | 2.1788  | 2.6810  | 3.0545  | 3.930   |
| 13  | 0.5375 | 0.6938 | 0.8702 | 1.0795 | 1.3502 | 1.7709 | 2.1604  | 2.6503  | 3.0123  | 3.852   |
| 14  | 0.5366 | 0.6924 | 0.8681 | 1.0763 | 1.3450 | 1.7613 | 2.1448  | 2.6245  | 2.9768  | 3.787   |
| 15  | 0.5357 | 0.6912 | 0.8662 | 1.0735 | 1.3406 | 1.7531 | 2.1314  | 2.6025  | 2.9467  | 3.733   |
| 16  | 0.5350 | 0.6901 | 0.8647 | 1.0711 | 1.3368 | 1.7459 | 2.1199  | 2.5835  | 2.9208  | 3.686   |
| 17  | 0.5344 | 0.6892 | 0.8633 | 1.0690 | 1.3334 | 1.7396 | 2.1098  | 2.5669  | 2.8982  | 3.646   |
| 18  | 0.5338 | 0.6884 | 0.8620 | 1.0672 | 1.3304 | 1.7341 | 2.1009  | 2.5524  | 2.8784  | 3.610   |
| 19  | 0.5333 | 0.6876 | 0.8610 | 1.0655 | 1.3277 | 1.7291 | 2.0930  | 2.5395  | 2.8609  | 3.579   |
| 20  | 0.5329 | 0.6870 | 0.8600 | 1.0640 | 1.3253 | 1.7247 | 2.0860  | 2.5280  | 2.8453  | 3.552   |
| 21  | 0.5325 | 0.6864 | 0.8591 | 1.0627 | 1.3232 | 1.7207 | 2.0796  | 2.5176  | 2.8314  | 3.527   |
| 22  | 0.5321 | 0.6858 | 0.8583 | 1.0614 | 1.3212 | 1.7171 | 2.0739  | 2.5083  | 2.8188  | 3.505   |
| 23  | 0.5317 | 0.6853 | 0.8575 | 1.0603 | 1.3195 | 1.7139 | 2.0687  | 2.4999  | 2.8073  | 3.485   |
| 24  | 0.5314 | 0.6848 | 0.8569 | 1.0593 | 1.3178 | 1.7109 | 2.0639  | 2.4922  | 2.7969  | 3.467   |
| 25  | 0.5312 | 0.6844 | 0.8562 | 1.0584 | 1.3163 | 1.7081 | 2.0595  | 2.4851  | 2.7874  | 3.450   |
| 26  | 0.5309 | 0.6840 | 0.8557 | 1.0575 | 1.3150 | 1.7056 | 2.0555  | 2.4786  | 2.7787  | 3.435   |
| 27  | 0.5306 | 0.6837 | 0.8551 | 1.0567 | 1.3137 | 1.7033 | 2.0518  | 2.4727  | 2.7707  | 3.421   |
| 28  | 0.5304 | 0.6834 | 0.8546 | 1.0560 | 1.3125 | 1.7011 | 2.0484  | 2.4671  | 2.7633  | 3.408   |
| 29  | 0.5302 | 0.6830 | 0.8542 | 1.0553 | 1.3114 | 1.6991 | 2.0452  | 2.4620  | 2.7564  | 3.396   |
| 30  | 0.5300 | 0.6828 | 0.8538 | 1.0547 | 1.3104 | 1.6973 | 2.0423  | 2.4573  | 2.7500  | 3.385   |
| 40  | 0.5286 | 0.6807 | 0.8507 | 1.0500 | 1.3031 | 1.6839 | 2.0211  | 2.4233  | 2.7045  | 3.307   |
| 50  | 0.5278 | 0.6794 | 0.8489 | 1.0473 | 1.2987 | 1.6759 | 2.0086  | 2.4033  | 2.6778  | 3.261   |
| 60  | 0.5272 | 0.6786 | 0.8477 | 1.0455 | 1.2958 | 1.6706 | 2.0003  | 2.3901  | 2.6603  | 3.232   |
| 70  | 0.5268 | 0.6780 | 0.8468 | 1.0442 | 1.2938 | 1.6669 | 1.9944  | 2.3808  | 2.6479  | 3.211   |
| 80  | 0.5265 | 0.6776 | 0.8461 | 1.0432 | 1.2922 | 1.6641 | 1.9901  | 2.3739  | 2.6387  | 3.195   |
| 90  | 0.5263 | 0.6772 | 0.8456 | 1.0424 | 1.2910 | 1.6620 | 1.9867  | 2.3685  | 2.6316  | 3.183   |
| 100 | 0.5261 | 0.6770 | 0.8452 | 1.0418 | 1.2901 | 1.6602 | 1.9840  | 2.3642  | 2.6259  | 3.174   |
| 125 | 0.5257 | 0.6765 | 0.8445 | 1.0408 | 1.2884 | 1.6571 | 1.9791  | 2.3565  | 2.6157  | 3.157   |
| 150 | 0.5255 | 0.6761 | 0.8440 | 1.0400 | 1.2872 | 1.6551 | 1.9759  | 2.3515  | 2.6090  | 3.145   |
| 200 | 0.5252 | 0.6757 | 0.8434 | 1.0391 | 1.2858 | 1.6525 | 1.9719  | 2.3451  | 2.6006  | 3.131   |

# Tabla de Distribución Chi Cuadrado

## Función de Distribución Acumulada

Curso de Estadística de Tamara Burdisso. FCE - UBA



α

| gl  | 0.001   | 0.005   | 0.01    | 0.025   | 0.05    | 0.10    | 0.20    | 0.25    | 0.30    | 0.40    | 0.50    |
|-----|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 1   | 10.8276 | 7.87944 | 6.6349  | 5.02389 | 3.84146 | 2.70554 | 1.64237 | 1.3233  | 1.07419 | 0.70833 | 0.45494 |
| 2   | 13.8155 | 10.5966 | 9.21034 | 7.37776 | 5.99146 | 4.60517 | 3.21888 | 2.77259 | 2.40795 | 1.83258 | 1.38629 |
| 3   | 16.2662 | 12.8382 | 11.3449 | 9.3484  | 7.81473 | 6.25139 | 4.64163 | 4.10834 | 3.66487 | 2.94617 | 2.36597 |
| 4   | 18.4668 | 14.8603 | 13.2767 | 11.1433 | 9.48773 | 7.77944 | 5.98862 | 5.38527 | 4.87843 | 4.04463 | 3.35669 |
| 5   | 20.515  | 16.7496 | 15.0863 | 12.8325 | 11.0705 | 9.23636 | 7.28928 | 6.62568 | 6.06443 | 5.13187 | 4.35146 |
| 6   | 22.4577 | 18.5476 | 16.8119 | 14.4494 | 12.5916 | 10.6446 | 8.55806 | 7.8408  | 7.23114 | 6.21076 | 5.34812 |
| 7   | 24.3219 | 20.2777 | 18.4753 | 16.0128 | 14.0671 | 12.017  | 9.80325 | 9.03715 | 8.38343 | 7.28321 | 6.34581 |
| 8   | 26.1245 | 21.955  | 20.0902 | 17.5345 | 15.5073 | 13.3616 | 11.0301 | 10.2189 | 9.52446 | 8.35053 | 7.34412 |
| 9   | 27.8772 | 23.5894 | 21.666  | 19.0228 | 16.919  | 14.6837 | 12.2421 | 11.3888 | 10.6564 | 9.41364 | 8.34283 |
| 10  | 29.5883 | 25.1882 | 23.2093 | 20.4832 | 18.307  | 15.9872 | 13.442  | 12.5489 | 11.7807 | 10.4732 | 9.34182 |
| 11  | 31.2641 | 26.7568 | 24.725  | 21.92   | 19.6751 | 17.275  | 14.6314 | 13.7007 | 12.8987 | 11.5298 | 10.341  |
| 12  | 32.9095 | 28.2995 | 26.217  | 23.3367 | 21.0261 | 18.5493 | 15.812  | 14.8454 | 14.0111 | 12.5838 | 11.3403 |
| 13  | 34.5282 | 29.8195 | 27.6882 | 24.7356 | 22.362  | 19.8119 | 16.9848 | 15.9839 | 15.1187 | 13.6356 | 12.3398 |
| 14  | 36.1233 | 31.3193 | 29.1412 | 26.1189 | 23.6848 | 21.0641 | 18.1508 | 17.1169 | 16.2221 | 14.6853 | 13.3393 |
| 15  | 37.6973 | 32.8013 | 30.5779 | 27.4884 | 24.9958 | 22.3071 | 19.3107 | 18.2451 | 17.3217 | 15.7332 | 14.3389 |
| 16  | 39.2524 | 34.2672 | 31.9999 | 28.8454 | 26.2962 | 23.5418 | 20.4651 | 19.3689 | 18.4179 | 16.7795 | 15.3385 |
| 17  | 40.7902 | 35.7185 | 33.4087 | 30.191  | 27.5871 | 24.769  | 21.6146 | 20.4887 | 19.511  | 17.8244 | 16.3382 |
| 18  | 42.3124 | 37.1565 | 34.8053 | 31.5264 | 28.8693 | 25.9894 | 22.7595 | 21.6049 | 20.6014 | 18.8679 | 17.3379 |
| 19  | 43.8202 | 38.5823 | 36.1909 | 32.8523 | 30.1435 | 27.2036 | 23.9004 | 22.7178 | 21.6891 | 19.9102 | 18.3377 |
| 20  | 45.3147 | 39.9968 | 37.5662 | 34.1696 | 31.4104 | 28.412  | 25.0375 | 23.8277 | 22.7745 | 20.9514 | 19.3374 |
| 21  | 46.797  | 41.4011 | 38.9322 | 35.4789 | 32.6706 | 29.6151 | 26.1711 | 24.9348 | 23.8578 | 21.9915 | 20.3372 |
| 22  | 48.2679 | 42.7957 | 40.2894 | 36.7807 | 33.9244 | 30.8133 | 27.3015 | 26.0393 | 24.939  | 23.0307 | 21.337  |
| 23  | 49.7282 | 44.1813 | 41.6384 | 38.0756 | 35.1725 | 32.0069 | 28.4288 | 27.1413 | 26.0184 | 24.0689 | 22.3369 |
| 24  | 51.1786 | 45.5585 | 42.9798 | 39.3641 | 36.415  | 33.1962 | 29.5533 | 28.2412 | 27.096  | 25.1063 | 23.3367 |
| 25  | 52.6197 | 46.9279 | 44.3141 | 40.6465 | 37.6525 | 34.3816 | 30.6752 | 29.3389 | 28.1719 | 26.143  | 24.3366 |
| 26  | 54.052  | 48.2899 | 45.6417 | 41.9232 | 38.8851 | 35.5632 | 31.7946 | 30.4346 | 29.2463 | 27.1789 | 25.3365 |
| 27  | 55.476  | 49.6449 | 46.9629 | 43.1945 | 40.1133 | 36.7412 | 32.9117 | 31.5284 | 30.3193 | 28.2141 | 26.3363 |
| 28  | 56.8923 | 50.9934 | 48.2782 | 44.4608 | 41.3371 | 37.9159 | 34.0266 | 32.6205 | 31.3909 | 29.2486 | 27.3362 |
| 29  | 58.3012 | 52.3356 | 49.5879 | 45.7223 | 42.557  | 39.0875 | 35.1394 | 33.7109 | 32.4612 | 30.2825 | 28.3361 |
| 30  | 59.7031 | 53.672  | 50.8922 | 46.9792 | 43.773  | 40.256  | 36.2502 | 34.7997 | 33.5302 | 31.3159 | 29.336  |
| 40  | 73.402  | 66.766  | 63.6907 | 59.3417 | 55.7585 | 51.8051 |         | 45.616  | 44.1649 | 41.6222 | 39.3353 |
| 50  | 86.6608 | 79.49   |         | 71.4202 |         |         | 58.1638 |         |         |         |         |
| 60  |         | 91.9517 |         |         |         | 74.397  |         |         | 65.2265 |         |         |
| 70  |         | 104.215 |         |         |         |         |         |         | 75.6893 |         |         |
| 80  | 124.839 |         |         |         |         |         | 90.4053 |         |         |         |         |
| 90  | 137.208 |         |         |         |         |         | 101.054 |         |         |         | 89.3342 |
| 100 | 149.449 |         | 135.807 |         |         | 118.498 |         |         | 106.906 |         |         |
| 125 | 179.604 |         | 164.694 |         |         |         | 138.076 |         |         | 128.37  | 124.334 |
| 150 | 209.265 | 198.36  | 193.208 | 185.8   |         |         | 164.349 |         |         |         | 149.334 |
| 200 | 267.541 | 255.264 | 249.445 | 241.058 | 233.994 | 226.021 | 216.609 | 213.102 | 209.985 | 204.434 | 199.334 |

α

| gl  | 0.60    | 0.70    | 0.75    | 0.80    | 0.90    | 0.95    | 0.975   | 0.99    | 0.995   | 0.999   |
|-----|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 1   | 0.275   | 0.14847 | 0.10153 | 0.06418 | 0.01579 | 0.00393 | 0.00098 | 0.00016 | 0.0000  | 0.0000  |
| 2   | 1.02165 | 0.71335 | 0.57536 | 0.44629 | 0.21072 | 0.10259 | 0.05064 | 0.0201  | 0.0100  | 0.0020  |
| 3   | 1.86917 | 1.42365 | 1.21253 | 1.00517 | 0.58437 | 0.35185 | 0.2158  | 0.11483 | 0.0717  | 0.0243  |
| 4   | 2.75284 | 2.1947  | 1.92256 | 1.64878 | 1.06362 | 0.71072 | 0.48442 | 0.29711 | 0.2070  | 0.0908  |
| 5   | 3.6555  | 2.99991 | 2.6746  | 2.34253 | 1.61031 | 1.14548 | 0.83121 | 0.5543  | 0.4117  | 0.2102  |
| 6   | 4.57015 | 3.82755 | 3.4546  | 3.07009 | 2.20413 | 1.63538 | 1.23734 | 0.87209 | 0.6757  | 0.3811  |
| 7   | 5.49323 | 4.67133 | 4.25485 | 3.82232 | 2.83311 | 2.16735 | 1.68987 | 1.23904 | 0.9893  | 0.5985  |
| 8   | 6.42265 | 5.52742 | 5.07064 | 4.59357 | 3.48954 | 2.73264 | 2.17973 | 1.6465  | 1.3444  | 0.8571  |
| 9   | 7.35703 | 6.39331 | 5.89883 | 5.38005 | 4.16816 | 3.32511 | 2.70039 | 2.0879  | 1.7349  | 1.1519  |
| 10  | 8.29547 | 7.26722 | 6.7372  | 6.17908 | 4.86518 | 3.9403  | 3.24697 | 2.55821 | 2.1559  | 1.4787  |
| 11  | 9.23729 | 8.14787 | 7.58414 | 6.98867 | 5.57778 | 4.57481 | 3.81575 | 3.05348 | 2.6032  | 1.8339  |
| 12  | 10.182  | 9.03428 | 8.43842 | 7.80733 | 6.3038  | 5.22603 | 4.40379 | 3.57057 | 3.0738  | 2.2142  |
| 13  | 11.1291 | 9.92568 | 9.29907 | 8.63386 | 7.0415  | 5.89186 | 5.00875 | 4.10692 | 3.5650  | 2.6172  |
| 14  | 12.0785 | 10.8215 | 10.1653 | 9.46733 | 7.78953 | 6.57063 | 5.62873 | 4.66043 | 4.0747  | 3.0407  |
| 15  | 13.0297 | 11.7212 | 11.0365 | 10.307  | 8.54676 | 7.26094 | 6.26214 | 5.22935 | 4.6009  | 3.4827  |
| 16  | 13.9827 | 12.6243 | 11.9122 | 11.1521 | 9.31224 | 7.96165 | 6.90766 | 5.81221 | 5.1422  | 3.9416  |
| 17  | 14.9373 | 13.5307 | 12.7919 | 12.0023 | 10.0852 | 8.67176 | 7.56419 | 6.40776 | 5.6972  | 4.4161  |
| 18  | 15.8932 | 14.4399 | 13.6753 | 12.857  | 10.8649 | 9.39046 | 8.23075 | 7.01491 | 6.2648  | 4.9048  |
| 19  | 16.8504 | 15.3517 | 14.562  | 13.7158 | 11.6509 | 10.117  | 8.90652 | 7.63273 | 6.8440  | 5.4068  |
| 20  | 17.8088 | 16.2659 | 15.4518 | 14.5784 | 12.4426 | 10.8508 | 9.59078 | 8.2604  | 7.4338  | 5.9210  |
| 21  | 18.7683 | 17.1823 | 16.3444 | 15.4446 | 13.2396 | 11.5913 | 10.2829 | 8.8972  | 8.0337  | 6.4467  |
| 22  | 19.7288 | 18.1007 | 17.2396 | 16.314  | 14.0415 | 12.338  | 10.9823 | 9.54249 | 8.6427  | 6.9830  |
| 23  | 20.6902 | 19.0211 | 18.1373 | 17.1865 | 14.848  | 13.0905 | 11.6886 | 10.1957 | 9.2604  | 7.5292  |
| 24  | 21.6525 | 19.9432 | 19.0373 | 18.0618 | 15.6587 | 13.8484 | 12.4012 | 10.8564 | 9.8862  | 8.0849  |
| 25  | 22.6156 | 20.867  | 19.9393 | 18.9398 | 16.4734 | 14.6114 | 13.1197 | 11.524  | 10.5197 | 8.6493  |
| 26  | 23.5794 | 21.7924 | 20.8434 | 19.8202 | 17.2919 | 15.3792 | 13.8439 | 12.1981 | 11.1602 | 9.2221  |
| 27  | 24.544  | 22.7192 | 21.7494 | 20.703  | 18.1139 | 16.1514 | 14.5734 | 12.8785 | 11.8076 | 9.8028  |
| 28  | 25.5093 | 23.6475 | 22.6572 | 21.588  | 18.9392 | 16.9279 | 15.3079 | 13.5647 | 12.4613 | 10.3909 |
| 29  | 26.4751 | 24.577  | 23.5666 | 22.4751 | 19.7677 | 17.7084 | 16.0471 | 14.2565 | 13.1211 | 10.9861 |
| 30  | 27.4416 | 25.5078 | 24.4776 | 23.3641 | 20.5992 | 18.4927 | 16.7908 | 14.9535 | 13.7867 | 11.5880 |
| 40  | 37.134  | 34.8719 | 33.6603 | 32.345  | 29.0505 | 26.5093 | 24.433  | 22.1643 | 20.7065 | 17.9164 |
| 50  | 46.8638 | 44.3133 | 42.9421 | 41.4492 | 37.6886 | 34.7643 | 32.3574 | 29.7067 | 27.9907 | 24.6739 |
| 60  | 56.62   |         | 52.2938 |         |         | 43.188  |         | 37.4849 |         | 31.7383 |
| 70  | 66.3961 | 63.346  |         | 59.8978 |         | 51.7393 |         | 45.4417 |         |         |
| 80  | 76.1879 | 72.9153 |         | 69.2069 |         | 60.3915 |         | 53.5401 |         |         |
| 90  |         | 82.5111 | 80.6247 | 78.5584 | 73.2911 | 69.126  |         | 61.7541 |         | 54.1552 |
| 100 |         | 92.1289 |         |         | 82.3581 |         |         | 70.0649 |         | 61.9179 |
| 125 |         | 116.251 |         | 111.536 |         |         |         | 91.1798 |         |         |
| 150 | 145     | 140.457 |         | 135.263 |         |         | 117.985 | 112.668 | 109.142 | 102.113 |
| 200 | 194.319 | 189.049 | 180.1/2 | 183.003 | 174.835 | 168.279 | 162.728 | 156.432 | 152.241 | 143.843 |