

## 12.1: Critical Values for t-Interval

Table A.2: Critical Values for t-Interval

| Degrees of Freedom<br>(df) | 80%   | 90%   | 95%    | 98%    | 99%    |
|----------------------------|-------|-------|--------|--------|--------|
| 1                          | 3.078 | 6.314 | 12.706 | 31.821 | 63.657 |
| 2                          | 1.886 | 2.920 | 4.303  | 6.965  | 9.925  |
| 3                          | 1.638 | 2.353 | 3.182  | 4.541  | 5.841  |
| 4                          | 1.533 | 2.132 | 2.776  | 3.747  | 4.604  |
| 5                          | 1.476 | 2.015 | 2.571  | 3.365  | 4.032  |
| 6                          | 1.440 | 1.943 | 2.447  | 3.143  | 3.707  |
| 7                          | 1.415 | 1.895 | 2.365  | 2.998  | 3.499  |
| 8                          | 1.397 | 1.860 | 2.306  | 2.896  | 3.355  |
| 9                          | 1.383 | 1.833 | 2.262  | 2.821  | 3.250  |
| 10                         | 1.372 | 1.812 | 2.228  | 2.764  | 3.169  |
| 11                         | 1.363 | 1.796 | 2.201  | 2.718  | 3.106  |
| 12                         | 1.356 | 1.782 | 2.179  | 2.681  | 3.055  |
| 13                         | 1.350 | 1.771 | 2.160  | 2.650  | 3.012  |
| 14                         | 1.345 | 1.761 | 2.145  | 2.624  | 2.977  |
| 15                         | 1.341 | 1.753 | 2.131  | 2.602  | 2.947  |
| 16                         | 1.337 | 1.746 | 2.120  | 2.583  | 2.921  |
| 17                         | 1.333 | 1.740 | 2.110  | 2.567  | 2.898  |
| 18                         | 1.330 | 1.734 | 2.101  | 2.552  | 2.878  |
| 19                         | 1.328 | 1.729 | 2.093  | 2.539  | 2.861  |
| 20                         | 1.325 | 1.725 | 2.086  | 2.528  | 2.845  |
| 21                         | 1.323 | 1.721 | 2.080  | 2.518  | 2.831  |
| 22                         | 1.321 | 1.717 | 2.074  | 2.508  | 2.819  |
| 23                         | 1.319 | 1.714 | 2.069  | 2.500  | 2.807  |
| 24                         | 1.318 | 1.711 | 2.064  | 2.492  | 2.797  |
| 25                         | 1.316 | 1.708 | 2.060  | 2.485  | 2.787  |
| 26                         | 1.315 | 1.706 | 2.056  | 2.479  | 2.779  |
| 27                         | 1.314 | 1.703 | 2.052  | 2.473  | 2.771  |
| 28                         | 1.313 | 1.701 | 2.048  | 2.467  | 2.763  |
| 29                         | 1.311 | 1.699 | 2.045  | 2.462  | 2.756  |
| 30                         | 1.310 | 1.697 | 2.042  | 2.457  | 2.750  |
| 31                         | 1.309 | 1.696 | 2.040  | 2.453  | 2.744  |
| 32                         | 1.309 | 1.694 | 2.037  | 2.449  | 2.738  |

| Degrees of Freedom<br>(df) | 80%   | 90%   | 95%   | 98%   | 99%   |
|----------------------------|-------|-------|-------|-------|-------|
| 33                         | 1.308 | 1.692 | 2.035 | 2.445 | 2.733 |
| 34                         | 1.307 | 1.691 | 2.032 | 2.441 | 2.728 |
| 35                         | 1.306 | 1.690 | 2.030 | 2.438 | 2.724 |
| 36                         | 1.306 | 1.688 | 2.028 | 2.434 | 2.719 |
| 37                         | 1.305 | 1.687 | 2.026 | 2.431 | 2.715 |
| 38                         | 1.304 | 1.686 | 2.024 | 2.429 | 2.712 |
| 39                         | 1.304 | 1.685 | 2.023 | 2.426 | 2.712 |
| 40                         | 1.303 | 1.684 | 2.021 | 2.423 | 2.704 |
| 41                         | 1.303 | 1.683 | 2.020 | 2.421 | 2.701 |
| 42                         | 1.302 | 1.682 | 2.018 | 2.418 | 2.698 |
| 43                         | 1.302 | 1.681 | 2.017 | 2.416 | 2.695 |
| 44                         | 1.301 | 1.680 | 2.015 | 2.414 | 2.692 |
| 45                         | 1.301 | 1.679 | 2.014 | 2.412 | 2.690 |
| 46                         | 1.300 | 1.679 | 2.013 | 2.410 | 2.687 |
| 47                         | 1.300 | 1.678 | 2.012 | 2.408 | 2.685 |
| 48                         | 1.299 | 1.677 | 2.011 | 2.407 | 2.682 |
| 49                         | 1.299 | 1.677 | 2.010 | 2.405 | 2.680 |
| 50                         | 1.299 | 1.676 | 2.009 | 2.403 | 2.678 |
| 51                         | 1.298 | 1.675 | 2.008 | 2.402 | 2.676 |
| 52                         | 1.298 | 1.675 | 2.007 | 2.400 | 2.674 |
| 53                         | 1.298 | 1.674 | 2.006 | 2.399 | 2.672 |
| 54                         | 1.297 | 1.674 | 2.005 | 2.397 | 2.670 |
| 55                         | 1.297 | 1.673 | 2.004 | 2.396 | 2.668 |
| 56                         | 1.297 | 1.673 | 2.003 | 2.395 | 2.667 |
| 57                         | 1.297 | 1.672 | 2.002 | 2.394 | 2.665 |
| 58                         | 1.296 | 1.672 | 2.002 | 2.392 | 2.663 |
| 59                         | 1.296 | 1.671 | 2.001 | 2.391 | 2.662 |
| 60                         | 1.296 | 1.671 | 2.000 | 2.390 | 2.660 |
| 61                         | 1.296 | 1.670 | 2.000 | 2.389 | 2.659 |
| 62                         | 1.295 | 1.670 | 1.999 | 2.388 | 2.657 |
| 63                         | 1.295 | 1.669 | 1.998 | 2.387 | 2.656 |
| 64                         | 1.295 | 1.669 | 1.998 | 2.386 | 2.655 |
| 65                         | 1.295 | 1.669 | 1.997 | 2.385 | 2.654 |
| 66                         | 1.295 | 1.668 | 1.997 | 2.384 | 2.652 |

| Degrees of Freedom<br>(df) | 80%   | 90%   | 95%   | 98%   | 99%   |
|----------------------------|-------|-------|-------|-------|-------|
| 67                         | 1.294 | 1.668 | 1.996 | 2.383 | 2.651 |
| 68                         | 1.294 | 1.668 | 1.995 | 2.382 | 2.650 |
| 69                         | 1.294 | 1.667 | 1.995 | 2.382 | 2.649 |
| 70                         | 1.294 | 1.667 | 1.994 | 2.381 | 2.648 |
| 71                         | 1.294 | 1.667 | 1.994 | 2.380 | 2.647 |
| 72                         | 1.293 | 1.666 | 1.993 | 2.379 | 2.646 |
| 73                         | 1.293 | 1.666 | 1.993 | 2.379 | 2.645 |
| 74                         | 1.293 | 1.666 | 1.993 | 2.378 | 2.644 |
| 75                         | 1.293 | 1.665 | 1.992 | 2.377 | 2.643 |
| 76                         | 1.293 | 1.665 | 1.992 | 2.376 | 2.642 |
| 77                         | 1.293 | 1.665 | 1.991 | 2.376 | 2.641 |
| 78                         | 1.292 | 1.665 | 1.991 | 2.375 | 2.640 |
| 79                         | 1.292 | 1.664 | 1.990 | 2.374 | 2.640 |
| 80                         | 1.292 | 1.664 | 1.990 | 2.374 | 2.639 |
| 81                         | 1.292 | 1.664 | 1.990 | 2.373 | 2.638 |
| 82                         | 1.292 | 1.664 | 1.989 | 2.373 | 2.637 |
| 83                         | 1.292 | 1.663 | 1.989 | 2.372 | 2.636 |
| 84                         | 1.292 | 1.663 | 1.989 | 2.372 | 2.636 |
| 85                         | 1.292 | 1.663 | 1.988 | 2.371 | 2.635 |
| 86                         | 1.291 | 1.663 | 1.988 | 2.370 | 2.634 |
| 87                         | 1.291 | 1.663 | 1.988 | 2.370 | 2.634 |
| 88                         | 1.291 | 1.662 | 1.987 | 2.369 | 2.633 |
| 89                         | 1.291 | 1.662 | 1.987 | 2.369 | 2.632 |
| 90                         | 1.291 | 1.662 | 1.987 | 2.368 | 2.632 |
| 91                         | 1.291 | 1.662 | 1.986 | 2.368 | 2.631 |
| 92                         | 1.291 | 1.662 | 1.986 | 2.368 | 2.630 |
| 93                         | 1.291 | 1.661 | 1.986 | 2.367 | 2.630 |
| 94                         | 1.291 | 1.661 | 1.986 | 2.367 | 2.629 |
| 95                         | 1.291 | 1.661 | 1.985 | 2.366 | 2.629 |
| 96                         | 1.290 | 1.661 | 1.985 | 2.366 | 2.628 |
| 97                         | 1.290 | 1.661 | 1.985 | 2.365 | 2.627 |
| 98                         | 1.290 | 1.661 | 1.984 | 2.365 | 2.627 |
| 99                         | 1.290 | 1.660 | 1.984 | 2.365 | 2.626 |
| 100                        | 1.290 | 1.660 | 1.984 | 2.364 | 2.626 |

| Degrees of Freedom<br>( <i>df</i> ) | 80%   | 90%   | 95%   | 98%   | 99%   |
|-------------------------------------|-------|-------|-------|-------|-------|
| 101                                 | 1.290 | 1.660 | 1.984 | 2.364 | 2.625 |
| 102                                 | 1.290 | 1.660 | 1.983 | 2.363 | 2.625 |
| 103                                 | 1.290 | 1.660 | 1.983 | 2.363 | 2.624 |
| 104                                 | 1.290 | 1.660 | 1.983 | 2.363 | 2.624 |
| 105                                 | 1.290 | 1.659 | 1.983 | 2.362 | 2.623 |

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