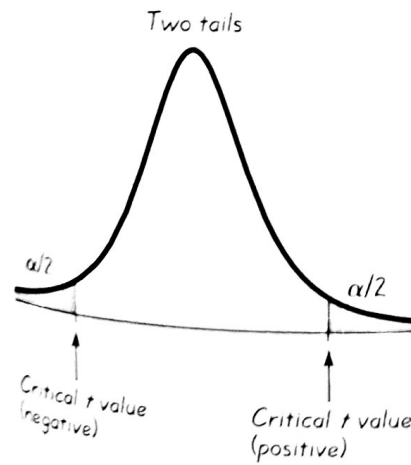
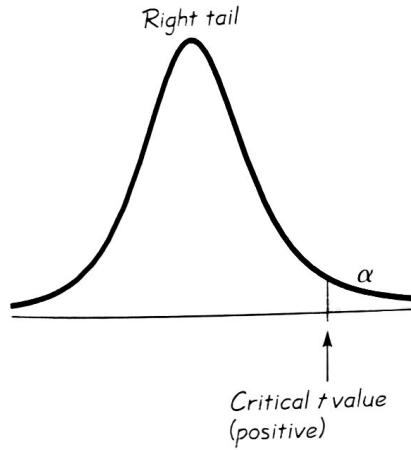
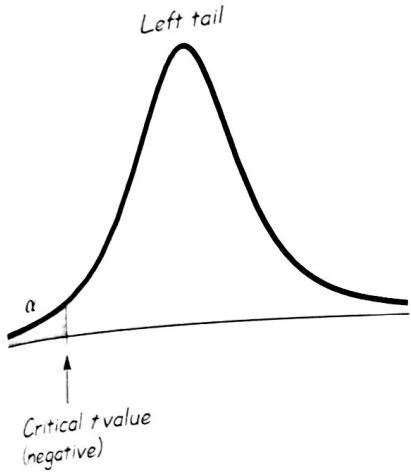


Table A-3 *t* Distribution: Critical *t* Values



| Degrees of Freedom | 0.005 | 0.01 | Area in One Tail | | 0.10 |
|--------------------|-------------------|--------|------------------|-------|-------|
| | 0.01 | 0.02 | 0.025 | 0.05 | 0.20 |
| | Area in Two Tails | | 0.05 | 0.10 | 0.20 |
| 1 | 63.657 | 31.821 | 12.706 | 6.314 | 3.078 |
| 2 | 9.925 | 6.965 | 4.303 | 2.920 | 1.886 |
| 3 | 5.841 | 4.541 | 3.182 | 2.353 | 1.638 |
| 4 | 4.604 | 3.747 | 2.776 | 2.132 | 1.533 |
| 5 | 4.032 | 3.365 | 2.571 | 2.015 | 1.476 |
| 6 | 3.707 | 3.143 | 2.447 | 1.943 | 1.440 |
| 7 | 3.499 | 2.998 | 2.365 | 1.895 | 1.415 |
| 8 | 3.355 | 2.896 | 2.306 | 1.860 | 1.397 |
| 9 | 3.250 | 2.821 | 2.262 | 1.833 | 1.383 |
| 10 | 3.169 | 2.764 | 2.228 | 1.812 | 1.372 |
| 11 | 3.106 | 2.718 | 2.201 | 1.796 | 1.363 |
| 12 | 3.055 | 2.681 | 2.179 | 1.782 | 1.356 |
| 13 | 3.012 | 2.650 | 2.160 | 1.771 | 1.350 |
| 14 | 2.977 | 2.624 | 2.145 | 1.761 | 1.345 |
| 15 | 2.947 | 2.602 | 2.131 | 1.753 | 1.341 |
| 16 | 2.921 | 2.583 | 2.120 | 1.746 | 1.337 |
| 17 | 2.898 | 2.567 | 2.110 | 1.740 | 1.333 |
| 18 | 2.878 | 2.552 | 2.101 | 1.734 | 1.330 |
| 19 | 2.861 | 2.539 | 2.093 | 1.729 | 1.328 |
| 20 | 2.845 | 2.528 | 2.086 | 1.725 | 1.325 |
| 21 | 2.831 | 2.518 | 2.080 | 1.721 | 1.323 |
| 22 | 2.819 | 2.508 | 2.074 | 1.717 | 1.321 |
| 23 | 2.807 | 2.500 | 2.069 | 1.714 | 1.319 |
| 24 | 2.797 | 2.492 | 2.064 | 1.711 | 1.318 |
| 25 | 2.787 | 2.485 | 2.060 | 1.708 | 1.316 |
| 26 | 2.779 | 2.479 | 2.056 | 1.706 | 1.315 |
| 27 | 2.771 | 2.473 | 2.052 | 1.703 | 1.314 |
| 28 | 2.763 | 2.467 | 2.048 | 1.701 | 1.313 |
| 29 | 2.756 | 2.462 | 2.045 | 1.699 | 1.311 |
| 30 | 2.750 | 2.457 | 2.042 | 1.697 | 1.310 |
| 31 | 2.744 | 2.453 | 2.040 | 1.696 | 1.309 |
| 32 | 2.738 | 2.449 | 2.037 | 1.694 | 1.309 |
| 33 | 2.733 | 2.445 | 2.035 | 1.692 | 1.308 |
| 34 | 2.728 | 2.441 | 2.032 | 1.691 | 1.307 |
| 35 | 2.724 | 2.438 | 2.030 | 1.690 | 1.306 |
| 36 | 2.719 | 2.434 | 2.028 | 1.688 | 1.306 |
| 37 | 2.715 | 2.431 | 2.026 | 1.687 | 1.305 |
| 38 | 2.712 | 2.429 | 2.024 | 1.686 | 1.304 |
| 39 | 2.708 | 2.426 | 2.023 | 1.685 | 1.304 |
| 40 | 2.704 | 2.423 | 2.021 | 1.684 | 1.303 |
| 45 | 2.690 | 2.412 | 2.014 | 1.679 | 1.301 |
| 50 | 2.678 | 2.403 | 2.009 | 1.676 | 1.299 |
| 60 | 2.660 | 2.390 | 2.000 | 1.671 | 1.296 |
| 70 | 2.648 | 2.381 | 1.994 | 1.667 | 1.294 |
| 80 | 2.639 | 2.374 | 1.990 | 1.664 | 1.292 |
| 90 | 2.632 | 2.368 | 1.987 | 1.662 | 1.291 |
| 100 | 2.626 | 2.364 | 1.984 | 1.660 | 1.290 |
| 200 | 2.601 | 2.345 | 1.972 | 1.650 | 1.284 |
| 300 | 2.592 | 2.339 | 1.968 | 1.649 | 1.284 |
| 400 | 2.588 | 2.336 | 1.966 | 1.648 | 1.283 |
| 500 | 2.586 | 2.334 | 1.965 | 1.648 | 1.282 |
| 1000 | 2.581 | 2.330 | 1.962 | 1.646 | 1.282 |
| 2000 | 2.578 | 2.328 | 1.961 | 1.646 | 1.282 |
| Large | 2.576 | 2.326 | 1.960 | 1.645 | 1.282 |