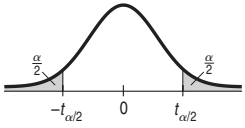
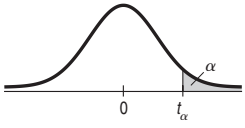
**Table T**
Values of $t_\alpha$



Two tails



One tail

| **Two-tail probability** | | 0.20 | 0.10 | 0.05 | 0.02 | 0.01 | |
|---|---|---|---|---|---|---|---|
| **One-tail probability** | | 0.10 | 0.05 | 0.025 | 0.01 | 0.005 | |
| | df | | | | | | df |
| | *1* | 3.078 | 6.314 | 12.706 | 31.821 | 63.657 | *1* |
| | *2* | 1.886 | 2.920 | 4.303 | 6.965 | 9.925 | *2* |
| | *3* | 1.638 | 2.353 | 3.182 | 4.541 | 5.841 | *3* |
| | *4* | 1.533 | 2.132 | 2.776 | 3.747 | 4.604 | *4* |
| | *5* | 1.476 | 2.015 | 2.571 | 3.365 | 4.032 | *5* |
| | *6* | 1.440 | 1.943 | 2.447 | 3.143 | 3.707 | *6* |
| | *7* | 1.415 | 1.895 | 2.365 | 2.998 | 3.499 | *7* |
| | *8* | 1.397 | 1.860 | 2.306 | 2.896 | 3.355 | *8* |
| | *9* | 1.383 | 1.833 | 2.262 | 2.821 | 3.250 | *9* |
| | *10* | 1.372 | 1.812 | 2.228 | 2.764 | 3.169 | *10* |
| | *11* | 1.363 | 1.796 | 2.201 | 2.718 | 3.106 | *11* |
| | *12* | 1.356 | 1.782 | 2.179 | 2.681 | 3.055 | *12* |
| | *13* | 1.350 | 1.771 | 2.160 | 2.650 | 3.012 | *13* |
| | *14* | 1.345 | 1.761 | 2.145 | 2.624 | 2.977 | *14* |
| | *15* | 1.341 | 1.753 | 2.131 | 2.602 | 2.947 | *15* |
| | *16* | 1.337 | 1.746 | 2.120 | 2.583 | 2.921 | *16* |
| | *17* | 1.333 | 1.740 | 2.110 | 2.567 | 2.898 | *17* |
| | *18* | 1.330 | 1.734 | 2.101 | 2.552 | 2.878 | *18* |
| | *19* | 1.328 | 1.729 | 2.093 | 2.539 | 2.861 | *19* |
| | *20* | 1.325 | 1.725 | 2.086 | 2.528 | 2.845 | *20* |
| | *21* | 1.323 | 1.721 | 2.080 | 2.518 | 2.831 | *21* |
| | *22* | 1.321 | 1.717 | 2.074 | 2.508 | 2.819 | *22* |
| | *23* | 1.319 | 1.714 | 2.069 | 2.500 | 2.807 | *23* |
| | *24* | 1.318 | 1.711 | 2.064 | 2.492 | 2.797 | *24* |
| | *25* | 1.316 | 1.708 | 2.060 | 2.485 | 2.787 | *25* |
| | *26* | 1.315 | 1.706 | 2.056 | 2.479 | 2.779 | *26* |
| | *27* | 1.314 | 1.703 | 2.052 | 2.473 | 2.771 | *27* |
| | *28* | 1.313 | 1.701 | 2.048 | 2.467 | 2.763 | *28* |
| | *29* | 1.311 | 1.699 | 2.045 | 2.462 | 2.756 | *29* |
| | *30* | 1.310 | 1.697 | 2.042 | 2.457 | 2.750 | *30* |
| | *32* | 1.309 | 1.694 | 2.037 | 2.449 | 2.738 | *32* |
| | *35* | 1.306 | 1.690 | 2.030 | 2.438 | 2.725 | *35* |
| | *40* | 1.303 | 1.684 | 2.021 | 2.423 | 2.704 | *40* |
| | *45* | 1.301 | 1.679 | 2.014 | 2.412 | 2.690 | *45* |
| | *50* | 1.299 | 1.676 | 2.009 | 2.403 | 2.678 | *50* |
| | *60* | 1.296 | 1.671 | 2.000 | 2.390 | 2.660 | *60* |
| | *75* | 1.293 | 1.665 | 1.992 | 2.377 | 2.643 | *75* |
| | *100* | 1.290 | 1.660 | 1.984 | 2.364 | 2.626 | *100* |
| | *120* | 1.289 | 1.658 | 1.980 | 2.358 | 2.617 | *120* |
| | *140* | 1.288 | 1.656 | 1.977 | 2.353 | 2.611 | *140* |
| | *180* | 1.286 | 1.653 | 1.973 | 2.347 | 2.603 | *180* |
| | *250* | 1.285 | 1.651 | 1.969 | 2.341 | 2.596 | *250* |
| | *400* | 1.284 | 1.649 | 1.966 | 2.336 | 2.588 | *400* |
| | *1000* | 1.282 | 1.646 | 1.962 | 2.330 | 2.581 | *1000* |
| | ∞ | 1.282 | 1.645 | 1.960 | 2.326 | 2.576 | ∞ |
| **Confidence levels** | | 80% | 90% | 95% | 98% | 99% | |