





Critical Values for Student's *t* Distribution

two-tail area     0.500     0.250     0.200     0.150     0.100     0.050     0.020     0.010     0.0010       d.f.     c     0.500     0.750     0.800     0.850     0.900     0.950     0.980     0.990     0.999       1     1.000     2.414     3.078     4.165     6.314     12.706     31.821     63.657     636.619       2     0.816     1.604     1.886     2.282     2.920     4.303     6.965     9.925     31.599       3     0.765     1.423     1.633     1.778     2.132     2.776     3.747     4.604     8.610       5     0.727     1.301     1.476     1.699     2.015     2.571     3.365     4.032     6.869       6     0.718     1.2273     1.440     1.650     1.943     2.447     3.143     3.707     5.959       7     0.711     1.254     1.415     1.650     1.943     2.447     3.143     3.707     5.959       8     0.	one-tail area	0.250	0.125	0.100	0.075	0.050	0.025	0.010	0.005	0.0005
1     1.000     2.414     3.078     4.165     6.314     12.706     31.821     63.657     636.619       2     0.816     1.604     1.886     2.282     2.920     4.303     6.965     9.925     31.599       3     0.765     1.423     1.638     1.924     2.353     3.182     4.541     5.841     12.924       4     0.741     1.344     1.633     1.778     2.132     2.776     3.747     4.604     8.610       5     0.771     1.254     1.440     1.650     1.943     2.447     3.143     3.707     5.959       7     0.711     1.254     1.415     1.617     1.895     2.365     2.998     3.499     5.408       8     0.706     1.240     1.397     1.559     1.812     2.228     2.896     3.355     5.041       9     0.703     1.230     1.353     1.548     1.796     2.201     2.718     3.166     4.437       10     0.691     1.291	two-tail area	0.500	0.250	0.200	0.150	0.100	0.050	0.020	0.010	0.0010
2     0.816     1.604     1.886     2.282     2.920     4.303     6.965     9.925     31.599       3     0.765     1.423     1.638     1.924     2.353     3.182     4.541     5.841     12.924       4     0.741     1.344     1.633     1.778     2.132     2.776     3.747     4.604     8.610       5     0.727     1.301     1.476     1.699     2.015     2.571     3.365     4.032     6.669       6     0.718     1.273     1.440     1.650     1.943     2.447     3.143     3.707     5.959       7     0.711     1.254     1.415     1.617     1.895     2.365     2.998     3.499     5.408       8     0.706     1.220     1.3372     1.559     1.812     2.228     2.826     3.355     5.041       9     0.703     1.230     1.372     1.559     1.813     2.622     2.821     3.169     4.587       11     0.695     1.209	d.f. c	0.500	0.750	0.800	0.850	0.900	0.950	0.980	0.990	0.999
3     0.765     1.423     1.638     1.924     2.353     3.182     4.541     5.841     12.924       4     0.741     1.344     1.533     1.778     2.132     2.776     3.747     4.604     8.610       5     0.727     1.301     1.476     1.699     2.015     2.571     3.365     4.032     6.869       6     0.718     1.273     1.440     1.650     1.943     2.447     3.143     3.707     5.959       7     0.711     1.254     1.415     1.617     1.895     2.365     2.998     3.499     5.408       8     0.706     1.240     1.397     1.592     1.860     2.306     2.896     3.355     5.041       9     0.703     1.230     1.383     1.574     1.833     2.262     2.821     3.250     4.781       10     0.700     1.221     1.372     1.559     1.812     2.228     2.764     3.169     4.437       12     0.695     1.209	1	1.000	2.414	3.078	4.165	6.314	12.706	31.821	63.657	636.619
4     0.741     1.344     1.533     1.778     2.132     2.776     3.747     4.604     8.610       5     0.727     1.301     1.476     1.699     2.015     2.571     3.365     4.032     6.869       6     0.718     1.273     1.440     1.650     1.943     2.447     3.143     3.707     5.959       7     0.711     1.254     1.415     1.617     1.895     2.366     2.998     3.499     5.408       8     0.706     1.240     1.397     1.592     1.860     2.306     2.896     3.355     5.041       10     0.700     1.221     1.372     1.559     1.812     2.228     2.764     3.169     4.587       11     0.697     1.214     1.363     1.548     1.796     2.201     2.718     3.106     4.437       12     0.695     1.209     1.350     1.530     1.771     2.160     2.650     3.012     4.221       4     0.692     1.94	2	0.816	1.604	1.886	2.282	2.920	4.303	6.965	9.925	31.599
5     0.727     1.301     1.476     1.699     2.015     2.571     3.365     4.032     6.869       6     0.718     1.273     1.440     1.650     1.943     2.447     3.143     3.707     5.959       7     0.711     1.254     1.415     1.617     1.895     2.365     2.998     3.499     5.408       8     0.706     1.240     1.397     1.592     1.860     2.306     2.896     3.355     5.041       9     0.703     1.230     1.383     1.574     1.833     2.262     2.824     3.250     4.781       10     0.700     1.221     1.363     1.548     1.796     2.201     2.718     3.106     4.487       11     0.697     1.241     1.363     1.548     1.796     2.201     2.718     3.106     4.437       12     0.695     1.209     1.356     1.523     1.771     2.160     2.650     3.012     4.221       14     0.692     1.200	3	0.765	1.423	1.638	1.924	2.353	3.182	4.541	5.841	12.924
6     0.718     1.273     1.440     1.650     1.943     2.447     3.143     3.707     5.959       7     0.711     1.254     1.415     1.617     1.895     2.365     2.998     3.499     5.408       8     0.706     1.240     1.397     1.592     1.860     2.306     2.896     3.355     5.041       9     0.703     1.220     1.383     1.574     1.833     2.622     2.821     3.250     4.781       10     0.700     1.221     1.372     1.559     1.812     2.228     2.764     3.169     4.587       11     0.697     1.214     1.363     1.548     1.796     2.201     2.718     3.169     4.587       12     0.695     1.209     1.356     1.533     1.761     2.145     2.621     2.977     4.140       15     0.691     1.291     1.331     1.502     1.771     2.160     2.650     3.012     4.221       16     0.690     1.194	4	0.741	1.344	1.533	1.778	2.132	2.776	3.747	4.604	8.610
7     0.711     1.254     1.415     1.617     1.895     2.365     2.998     3.499     5.408       8     0.706     1.240     1.397     1.592     1.860     2.306     2.896     3.355     5.041       9     0.703     1.230     1.383     1.574     1.833     2.262     2.821     3.250     4.781       10     0.700     1.221     1.372     1.559     1.812     2.228     2.764     3.169     4.587       11     0.695     1.209     1.356     1.533     1.782     2.179     2.681     3.055     4.318       13     0.694     1.204     1.350     1.570     1.771     2.160     2.650     3.012     4.221       14     0.692     1.200     1.345     1.523     1.761     2.145     2.624     2.977     4.140       15     0.691     1.197     1.341     1.517     1.753     2.131     2.602     2.947     4.073       16     0.690     1.194	5	0.727	1.301	1.476	1.699	2.015	2.571	3.365	4.032	6.869
8     0.706     1.240     1.397     1.592     1.860     2.306     2.896     3.355     5.041       9     0.703     1.230     1.383     1.574     1.833     2.262     2.821     3.250     4.781       10     0.700     1.221     1.372     1.559     1.812     2.228     2.764     3.169     4.587       11     0.697     1.214     1.363     1.548     1.796     2.201     2.718     3.106     4.437       12     0.695     1.204     1.350     1.530     1.771     2.160     2.650     3.012     4.221       14     0.694     1.204     1.350     1.530     1.771     2.160     2.652     2.977     4.140       15     0.691     1.197     1.341     1.517     1.753     2.131     2.602     2.977     4.140       15     0.681     1.197     1.331     1.502     1.746     2.145     2.624     2.977     4.073       16     0.682     1.191	6	0.718	1.273	1.440	1.650	1.943	2.447	3.143	3.707	5.959
9	7	0.711	1.254	1.415	1.617	1.895	2.365	2.998	3.499	5.408
10     0.700     1.221     1.372     1.559     1.812     2.228     2.764     3.169     4.587       11     0.697     1.214     1.363     1.548     1.796     2.201     2.718     3.106     4.437       12     0.695     1.209     1.356     1.538     1.782     2.179     2.681     3.055     4.318       13     0.694     1.204     1.350     1.530     1.771     2.160     2.650     3.012     4.221       14     0.692     1.200     1.345     1.523     1.761     2.145     2.624     2.977     4.140       15     0.691     1.191     1.331     1.501     1.753     2.131     2.602     2.947     4.073       16     0.690     1.191     1.333     1.508     1.740     2.110     2.562     2.847     4.075       17     0.688     1.181     1.333     1.500     1.729     2.093     2.539     2.861     3.839       20     0.687     1.185	8	0.706	1.240	1.397	1.592	1.860	2.306	2.896	3.355	5.041
11     0.697     1.214     1.363     1.548     1.796     2.201     2.718     3.106     4.437       12     0.695     1.209     1.356     1.538     1.782     2.179     2.681     3.055     4.318       13     0.694     1.204     1.350     1.530     1.771     2.160     2.650     3.012     4.221       14     0.692     1.200     1.345     1.523     1.761     2.145     2.624     2.977     4.140       15     0.691     1.197     1.341     1.517     1.753     2.131     2.602     2.947     4.073       16     0.690     1.194     1.337     1.512     1.746     2.120     2.583     2.921     4.015       17     0.689     1.191     1.333     1.508     1.740     2.110     2.567     2.898     3.965       18     0.688     1.189     1.330     1.504     1.734     2.110     2.562     2.878     3.922       19     0.684     1.183	9	0.703	1.230	1.383	1.574	1.833	2.262	2.821	3.250	4.781
12     0.695     1.209     1.356     1.538     1.782     2.179     2.681     3.055     4.318       13     0.694     1.204     1.350     1.530     1.771     2.160     2.650     3.012     4.221       14     0.692     1.200     1.345     1.523     1.761     2.145     2.624     2.977     4.140       15     0.691     1.197     1.341     1.517     1.753     2.131     2.602     2.947     4.073       16     0.690     1.194     1.337     1.512     1.746     2.120     2.583     2.921     4.015       17     0.689     1.191     1.333     1.508     1.740     2.110     2.567     2.898     3.965       18     0.688     1.891     1.330     1.504     1.734     2.101     2.552     2.878     3.922       19     0.688     1.181     1.325     1.497     1.725     2.086     2.528     2.845     3.850       21     0.686     1.183	10	0.700	1.221	1.372	1.559	1.812	2.228	2.764	3.169	4.587
13     0.694     1.204     1.350     1.530     1.771     2.160     2.650     3.012     4.221       14     0.692     1.200     1.345     1.523     1.761     2.145     2.624     2.977     4.140       15     0.691     1.197     1.341     1.517     1.753     2.131     2.602     2.947     4.073       16     0.690     1.194     1.337     1.512     1.746     2.120     2.583     2.921     4.015       17     0.689     1.191     1.333     1.508     1.740     2.110     2.567     2.898     3.965       18     0.688     1.187     1.328     1.500     1.729     2.093     2.539     2.861     3.883       20     0.687     1.185     1.325     1.497     1.725     2.086     2.528     2.845     3.850       21     0.686     1.183     1.323     1.494     1.721     2.080     2.518     2.831     3.819       22     0.686     1.182	11	0.697	1.214	1.363	1.548	1.796	2.201	2.718	3.106	4.437
14     0.692     1.200     1.345     1.523     1.761     2.145     2.624     2.977     4.140       15     0.691     1.197     1.341     1.517     1.753     2.131     2.602     2.947     4.073       16     0.690     1.194     1.337     1.512     1.746     2.120     2.583     2.921     4.015       17     0.689     1.191     1.333     1.508     1.740     2.110     2.567     2.898     3.965       18     0.688     1.189     1.330     1.504     1.734     2.101     2.552     2.878     3.922       19     0.688     1.187     1.328     1.500     1.729     2.093     2.539     2.861     3.883       20     0.687     1.185     1.325     1.497     1.725     2.086     2.528     2.845     3.850       21     0.686     1.182     1.321     1.492     1.717     2.074     2.508     2.819     3.792       23     0.685     1.180	12	0.695	1.209	1.356	1.538	1.782	2.179	2.681	3.055	4.318
15     0.691     1.197     1.341     1.517     1.753     2.131     2.602     2.947     4.073       16     0.690     1.194     1.337     1.512     1.746     2.120     2.583     2.921     4.015       17     0.689     1.191     1.333     1.508     1.740     2.110     2.567     2.898     3.965       18     0.688     1.189     1.330     1.504     1.734     2.101     2.552     2.878     3.922       19     0.688     1.187     1.328     1.500     1.729     2.093     2.539     2.861     3.883       20     0.687     1.185     1.325     1.497     1.725     2.086     2.528     2.845     3.850       21     0.686     1.183     1.323     1.494     1.721     2.080     2.518     2.831     3.819       22     0.686     1.182     1.321     1.492     1.717     2.074     2.508     2.819     3.792       23     0.685     1.180	13	0.694	1.204	1.350	1.530	1.771	2.160	2.650	3.012	4.221
16     0.690     1.194     1.337     1.512     1.746     2.120     2.583     2.921     4.015       17     0.689     1.191     1.333     1.508     1.740     2.110     2.567     2.898     3.965       18     0.688     1.189     1.330     1.504     1.734     2.101     2.552     2.878     3.922       19     0.688     1.187     1.328     1.500     1.729     2.093     2.539     2.861     3.883       20     0.687     1.185     1.325     1.497     1.725     2.086     2.528     2.845     3.850       21     0.686     1.183     1.323     1.494     1.721     2.080     2.518     2.831     3.819       22     0.686     1.182     1.321     1.492     1.717     2.074     2.508     2.819     3.792       23     0.685     1.180     1.319     1.489     1.714     2.069     2.500     2.807     3.768       24     0.685     1.179	14	0.692	1.200	1.345	1.523	1.761	2.145	2.624	2.977	4.140
17     0.689     1.191     1.333     1.508     1.740     2.110     2.567     2.898     3.965       18     0.688     1.189     1.330     1.504     1.734     2.101     2.552     2.878     3.922       19     0.688     1.187     1.328     1.500     1.729     2.093     2.539     2.861     3.883       20     0.687     1.185     1.325     1.497     1.725     2.086     2.528     2.845     3.850       21     0.686     1.183     1.323     1.494     1.721     2.080     2.518     2.831     3.819       22     0.686     1.182     1.321     1.492     1.717     2.074     2.508     2.819     3.792       23     0.685     1.180     1.319     1.489     1.711     2.064     2.492     2.797     3.745       24     0.685     1.179     1.318     1.487     1.711     2.064     2.492     2.797     3.745       25     0.684     1.177	15	0.691	1.197	1.341	1.517	1.753	2.131	2.602	2.947	4.073
18     0.688     1.189     1.330     1.504     1.734     2.101     2.552     2.878     3.922       19     0.688     1.187     1.328     1.500     1.729     2.093     2.539     2.861     3.883       20     0.687     1.185     1.325     1.497     1.725     2.086     2.528     2.845     3.850       21     0.686     1.183     1.323     1.494     1.721     2.080     2.518     2.831     3.819       22     0.686     1.182     1.321     1.492     1.717     2.074     2.508     2.819     3.792       23     0.685     1.180     1.319     1.489     1.714     2.069     2.500     2.807     3.768       24     0.685     1.179     1.318     1.487     1.711     2.064     2.492     2.797     3.745       25     0.684     1.177     1.315     1.483     1.706     2.056     2.479     2.779     3.707       27     0.684     1.176	16	0.690	1.194	1.337	1.512	1.746	2.120	2.583	2.921	4.015
19     0.688     1.187     1.328     1.500     1.729     2.093     2.539     2.861     3.883       20     0.687     1.185     1.325     1.497     1.725     2.086     2.528     2.845     3.850       21     0.686     1.183     1.323     1.494     1.721     2.080     2.518     2.831     3.819       22     0.686     1.182     1.321     1.492     1.717     2.074     2.508     2.819     3.792       23     0.685     1.180     1.319     1.489     1.714     2.069     2.500     2.807     3.768       24     0.685     1.179     1.318     1.487     1.711     2.064     2.492     2.797     3.745       25     0.684     1.198     1.316     1.485     1.708     2.060     2.485     2.787     3.725       26     0.684     1.176     1.314     1.482     1.703     2.052     2.473     2.771     3.690       28     0.683     1.175	17	0.689	1.191	1.333	1.508	1.740	2.110	2.567	2.898	3.965
20     0.687     1.185     1.325     1.497     1.725     2.086     2.528     2.845     3.850       21     0.686     1.183     1.323     1.494     1.721     2.080     2.518     2.831     3.819       22     0.686     1.182     1.321     1.492     1.717     2.074     2.508     2.819     3.792       23     0.685     1.180     1.319     1.489     1.714     2.069     2.500     2.807     3.768       24     0.685     1.179     1.318     1.487     1.711     2.064     2.492     2.797     3.745       25     0.684     1.198     1.316     1.485     1.708     2.060     2.485     2.787     3.725       26     0.684     1.176     1.314     1.482     1.703     2.052     2.473     2.771     3.690       28     0.683     1.175     1.313     1.480     1.701     2.048     2.467     2.763     3.674       29     0.683     1.174	18	0.688	1.189	1.330	1.504	1.734	2.101	2.552	2.878	3.922
21     0.686     1.183     1.323     1.494     1.721     2.080     2.518     2.831     3.819       22     0.686     1.182     1.321     1.492     1.717     2.074     2.508     2.819     3.792       23     0.685     1.180     1.319     1.489     1.714     2.069     2.500     2.807     3.768       24     0.685     1.179     1.318     1.487     1.711     2.064     2.492     2.797     3.745       25     0.684     1.198     1.316     1.485     1.708     2.060     2.485     2.787     3.725       26     0.684     1.177     1.315     1.483     1.706     2.056     2.479     2.779     3.707       27     0.684     1.176     1.314     1.482     1.703     2.052     2.473     2.771     3.690       28     0.683     1.175     1.313     1.480     1.701     2.048     2.467     2.750     3.646       35     0.682     1.170	19	0.688	1.187	1.328	1.500	1.729	2.093	2.539	2.861	3.883
22     0.686     1.182     1.321     1.492     1.717     2.074     2.508     2.819     3.792       23     0.685     1.180     1.319     1.489     1.714     2.069     2.500     2.807     3.768       24     0.685     1.179     1.318     1.487     1.711     2.064     2.492     2.797     3.745       25     0.684     1.198     1.316     1.485     1.708     2.060     2.485     2.787     3.725       26     0.684     1.177     1.315     1.483     1.706     2.056     2.479     2.779     3.707       27     0.684     1.176     1.314     1.482     1.703     2.052     2.473     2.771     3.690       28     0.683     1.175     1.313     1.480     1.701     2.048     2.467     2.763     3.674       29     0.683     1.173     1.310     1.477     1.699     2.045     2.462     2.756     3.659       30     0.682     1.170	20	0.687	1.185	1.325	1.497	1.725	2.086	2.528	2.845	3.850
23     0.685     1.180     1.319     1.489     1.714     2.069     2.500     2.807     3.768       24     0.685     1.179     1.318     1.487     1.711     2.064     2.492     2.797     3.745       25     0.684     1.198     1.316     1.485     1.708     2.060     2.485     2.787     3.725       26     0.684     1.177     1.315     1.483     1.706     2.056     2.479     2.779     3.707       27     0.684     1.176     1.314     1.482     1.703     2.052     2.473     2.771     3.690       28     0.683     1.175     1.313     1.480     1.701     2.048     2.467     2.763     3.674       29     0.683     1.173     1.310     1.477     1.699     2.045     2.462     2.756     3.659       30     0.683     1.170     1.306     1.472     1.690     2.042     2.457     2.750     3.646       35     0.682     1.170	21	0.686	1.183	1.323	1.494	1.721	2.080	2.518	2.831	3.819
24     0.685     1.179     1.318     1.487     1.711     2.064     2.492     2.797     3.745       25     0.684     1.198     1.316     1.485     1.708     2.060     2.485     2.787     3.725       26     0.684     1.177     1.315     1.483     1.706     2.056     2.479     2.779     3.707       27     0.684     1.176     1.314     1.482     1.703     2.052     2.473     2.771     3.690       28     0.683     1.175     1.313     1.480     1.701     2.048     2.467     2.763     3.674       29     0.683     1.174     1.311     1.479     1.699     2.045     2.462     2.756     3.659       30     0.683     1.170     1.306     1.477     1.697     2.042     2.457     2.750     3.646       35     0.682     1.170     1.306     1.472     1.690     2.030     2.438     2.724     3.591       40     0.681     1.167	22	0.686	1.182	1.321	1.492	1.717	2.074	2.508	2.819	3.792
25     0.684     1.198     1.316     1.485     1.708     2.060     2.485     2.787     3.725       26     0.684     1.177     1.315     1.483     1.706     2.056     2.479     2.779     3.707       27     0.684     1.176     1.314     1.482     1.703     2.052     2.473     2.771     3.690       28     0.683     1.175     1.313     1.480     1.701     2.048     2.467     2.763     3.674       29     0.683     1.174     1.311     1.479     1.699     2.045     2.462     2.756     3.659       30     0.683     1.173     1.310     1.477     1.697     2.042     2.457     2.750     3.646       35     0.682     1.170     1.306     1.472     1.690     2.030     2.438     2.724     3.591       40     0.681     1.167     1.303     1.468     1.684     2.021     2.423     2.704     3.551       45     0.680     1.165	23	0.685	1.180	1.319	1.489	1.714	2.069	2.500	2.807	3.768
26     0.684     1.177     1.315     1.483     1.706     2.056     2.479     2.779     3.707       27     0.684     1.176     1.314     1.482     1.703     2.052     2.473     2.771     3.690       28     0.683     1.175     1.313     1.480     1.701     2.048     2.467     2.763     3.674       29     0.683     1.174     1.311     1.479     1.699     2.045     2.462     2.756     3.659       30     0.683     1.173     1.310     1.477     1.697     2.042     2.457     2.750     3.646       35     0.682     1.170     1.306     1.472     1.690     2.030     2.438     2.724     3.591       40     0.681     1.167     1.303     1.468     1.684     2.021     2.423     2.704     3.551       45     0.680     1.165     1.301     1.465     1.679     2.014     2.412     2.690     3.520       50     0.679     1.164	24	0.685	1.179	1.318	1.487	1.711	2.064	2.492	2.797	3.745
27     0.684     1.176     1.314     1.482     1.703     2.052     2.473     2.771     3.690       28     0.683     1.175     1.313     1.480     1.701     2.048     2.467     2.763     3.674       29     0.683     1.174     1.311     1.479     1.699     2.045     2.462     2.756     3.659       30     0.683     1.173     1.310     1.477     1.697     2.042     2.457     2.750     3.646       35     0.682     1.170     1.306     1.472     1.690     2.030     2.438     2.724     3.591       40     0.681     1.167     1.303     1.468     1.684     2.021     2.423     2.704     3.551       45     0.680     1.165     1.301     1.465     1.679     2.014     2.412     2.690     3.520       50     0.679     1.164     1.299     1.462     1.676     2.009     2.403     2.678     3.496       60     0.678     1.162	25	0.684	1.198	1.316	1.485	1.708	2.060	2.485	2.787	3.725
28     0.683     1.175     1.313     1.480     1.701     2.048     2.467     2.763     3.674       29     0.683     1.174     1.311     1.479     1.699     2.045     2.462     2.756     3.659       30     0.683     1.173     1.310     1.477     1.697     2.042     2.457     2.750     3.646       35     0.682     1.170     1.306     1.472     1.690     2.030     2.438     2.724     3.591       40     0.681     1.167     1.303     1.468     1.684     2.021     2.423     2.704     3.551       45     0.680     1.165     1.301     1.465     1.679     2.014     2.412     2.690     3.520       50     0.679     1.164     1.299     1.462     1.676     2.009     2.403     2.678     3.496       60     0.679     1.162     1.296     1.458     1.671     2.000     2.390     2.660     3.460       70     0.678     1.159	26	0.684	1.177	1.315	1.483	1.706	2.056	2.479	2.779	3.707
29   0.683   1.174   1.311   1.479   1.699   2.045   2.462   2.756   3.659     30   0.683   1.173   1.310   1.477   1.697   2.042   2.457   2.750   3.646     35   0.682   1.170   1.306   1.472   1.690   2.030   2.438   2.724   3.591     40   0.681   1.167   1.303   1.468   1.684   2.021   2.423   2.704   3.551     45   0.680   1.165   1.301   1.465   1.679   2.014   2.412   2.690   3.520     50   0.679   1.164   1.299   1.462   1.676   2.009   2.403   2.678   3.496     60   0.679   1.162   1.296   1.458   1.671   2.000   2.390   2.660   3.460     70   0.678   1.160   1.294   1.456   1.667   1.994   2.381   2.648   3.435     80   0.678   1.159   1.292   1.453   1.664   1.990   2.374   2.639   3.416	27	0.684	1.176	1.314	1.482	1.703	2.052	2.473	2.771	3.690
30     0.683     1.173     1.310     1.477     1.697     2.042     2.457     2.750     3.646       35     0.682     1.170     1.306     1.472     1.690     2.030     2.438     2.724     3.591       40     0.681     1.167     1.303     1.468     1.684     2.021     2.423     2.704     3.551       45     0.680     1.165     1.301     1.465     1.679     2.014     2.412     2.690     3.520       50     0.679     1.164     1.299     1.462     1.676     2.009     2.403     2.678     3.496       60     0.679     1.162     1.296     1.458     1.671     2.000     2.390     2.660     3.460       70     0.678     1.160     1.294     1.456     1.667     1.994     2.381     2.648     3.435       80     0.678     1.159     1.292     1.453     1.664     1.990     2.374     2.639     3.416       100     0.675     1.152	28	0.683	1.175	1.313	1.480	1.701	2.048	2.467	2.763	3.674
35     0.682     1.170     1.306     1.472     1.690     2.030     2.438     2.724     3.591       40     0.681     1.167     1.303     1.468     1.684     2.021     2.423     2.704     3.551       45     0.680     1.165     1.301     1.465     1.679     2.014     2.412     2.690     3.520       50     0.679     1.164     1.299     1.462     1.676     2.009     2.403     2.678     3.496       60     0.679     1.162     1.296     1.458     1.671     2.000     2.390     2.660     3.460       70     0.678     1.160     1.294     1.456     1.667     1.994     2.381     2.648     3.435       80     0.678     1.159     1.292     1.453     1.664     1.990     2.374     2.639     3.416       100     0.677     1.157     1.290     1.451     1.660     1.984     2.364     2.626     3.390       500     0.675     1.152	29	0.683	1.174	1.311	1.479	1.699	2.045	2.462	2.756	3.659
40   0.681   1.167   1.303   1.468   1.684   2.021   2.423   2.704   3.551     45   0.680   1.165   1.301   1.465   1.679   2.014   2.412   2.690   3.520     50   0.679   1.164   1.299   1.462   1.676   2.009   2.403   2.678   3.496     60   0.679   1.162   1.296   1.458   1.671   2.000   2.390   2.660   3.460     70   0.678   1.160   1.294   1.456   1.667   1.994   2.381   2.648   3.435     80   0.678   1.159   1.292   1.453   1.664   1.990   2.374   2.639   3.416     100   0.677   1.157   1.290   1.451   1.660   1.984   2.364   2.626   3.390     500   0.675   1.152   1.283   1.442   1.648   1.962   2.330   2.581   3.300	30	0.683	1.173	1.310	1.477	1.697	2.042	2.457	2.750	3.646
45   0.680   1.165   1.301   1.465   1.679   2.014   2.412   2.690   3.520     50   0.679   1.164   1.299   1.462   1.676   2.009   2.403   2.678   3.496     60   0.679   1.162   1.296   1.458   1.671   2.000   2.390   2.660   3.460     70   0.678   1.160   1.294   1.456   1.667   1.994   2.381   2.648   3.435     80   0.678   1.159   1.292   1.453   1.664   1.990   2.374   2.639   3.416     100   0.677   1.157   1.290   1.451   1.660   1.984   2.364   2.626   3.390     500   0.675   1.152   1.283   1.442   1.648   1.965   2.334   2.586   3.310     1000   0.675   1.151   1.282   1.441   1.646   1.962   2.330   2.581   3.300	35	0.682	1.170	1.306	1.472	1.690	2.030	2.438	2.724	3.591
50   0.679   1.164   1.299   1.462   1.676   2.009   2.403   2.678   3.496     60   0.679   1.162   1.296   1.458   1.671   2.000   2.390   2.660   3.460     70   0.678   1.160   1.294   1.456   1.667   1.994   2.381   2.648   3.435     80   0.678   1.159   1.292   1.453   1.664   1.990   2.374   2.639   3.416     100   0.677   1.157   1.290   1.451   1.660   1.984   2.364   2.626   3.390     500   0.675   1.152   1.283   1.442   1.648   1.965   2.334   2.586   3.310     1000   0.675   1.151   1.282   1.441   1.646   1.962   2.330   2.581   3.300	40	0.681	1.167	1.303	1.468	1.684	2.021	2.423	2.704	3.551
60   0.679   1.162   1.296   1.458   1.671   2.000   2.390   2.660   3.460     70   0.678   1.160   1.294   1.456   1.667   1.994   2.381   2.648   3.435     80   0.678   1.159   1.292   1.453   1.664   1.990   2.374   2.639   3.416     100   0.677   1.157   1.290   1.451   1.660   1.984   2.364   2.626   3.390     500   0.675   1.152   1.283   1.442   1.648   1.965   2.334   2.586   3.310     1000   0.675   1.151   1.282   1.441   1.646   1.962   2.330   2.581   3.300	45	0.680	1.165	1.301	1.465	1.679	2.014	2.412	2.690	3.520
70   0.678   1.160   1.294   1.456   1.667   1.994   2.381   2.648   3.435     80   0.678   1.159   1.292   1.453   1.664   1.990   2.374   2.639   3.416     100   0.677   1.157   1.290   1.451   1.660   1.984   2.364   2.626   3.390     500   0.675   1.152   1.283   1.442   1.648   1.965   2.334   2.586   3.310     1000   0.675   1.151   1.282   1.441   1.646   1.962   2.330   2.581   3.300	50	0.679	1.164	1.299	1.462	1.676	2.009	2.403	2.678	3.496
80 0.678 1.159 1.292 1.453 1.664 1.990 2.374 2.639 3.416   100 0.677 1.157 1.290 1.451 1.660 1.984 2.364 2.626 3.390   500 0.675 1.152 1.283 1.442 1.648 1.965 2.334 2.586 3.310   1000 0.675 1.151 1.282 1.441 1.646 1.962 2.330 2.581 3.300	60	0.679	1.162	1.296	1.458	1.671	2.000	2.390	2.660	3.460
100 0.677 1.157 1.290 1.451 1.660 1.984 2.364 2.626 3.390   500 0.675 1.152 1.283 1.442 1.648 1.965 2.334 2.586 3.310   1000 0.675 1.151 1.282 1.441 1.646 1.962 2.330 2.581 3.300	70	0.678	1.160	1.294	1.456	1.667	1.994	2.381	2.648	3.435
500 0.675 1.152 1.283 1.442 1.648 1.965 2.334 2.586 3.310   1000 0.675 1.151 1.282 1.441 1.646 1.962 2.330 2.581 3.300	80	0.678	1.159	1.292	1.453	1.664	1.990	2.374	2.639	3.416
1000 0.675 1.151 1.282 1.441 1.646 1.962 2.330 2.581 3.300	100	0.677	1.157	1.290	1.451	1.660	1.984	2.364	2.626	3.390
	500	0.675	1.152	1.283	1.442	1.648	1.965	2.334	2.586	3.310
00 0.674 1.150 1.282 1.440 1.645 1.960 2.326 2.576 3.291	1000	0.675	1.151	1.282	1.441	1.646	1.962	2.330	2.581	3.300
	00	0.674	1.150	1.282	1.440	1.645	1.960	2.326	2.576	3.291

For degrees of freedom d.f. not in the table, use the closest d.f. that is smaller.