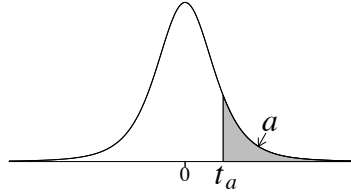


Critical Values of the t Distribution

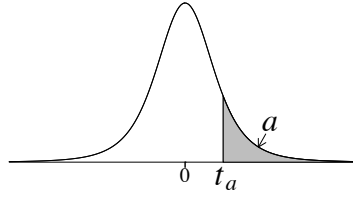
A table entry is the value of t_a , having an area to the right of a under a t distribution with df degrees of freedom.



df	$t_{0.20}$	$t_{0.15}$	$t_{0.10}$	$t_{0.05}$	$t_{0.025}$	$t_{0.01}$	$t_{0.005}$	$t_{0.001}$	$t_{0.0005}$
1	1.376	1.963	3.078	6.314	12.71	31.82	63.66	318.3	636.6
2	1.061	1.386	1.886	2.920	4.303	6.965	9.925	22.33	31.60
3	0.978	1.250	1.638	2.353	3.182	4.541	5.841	10.21	12.92
4	0.941	1.190	1.533	2.132	2.776	3.747	4.604	7.173	8.610
5	0.920	1.156	1.476	2.015	2.571	3.365	4.032	5.893	6.869
6	0.906	1.134	1.440	1.943	2.447	3.143	3.707	5.208	5.959
7	0.896	1.119	1.415	1.895	2.365	2.998	3.499	4.785	5.408
8	0.889	1.108	1.397	1.860	2.306	2.896	3.355	4.501	5.041
9	0.883	1.100	1.383	1.833	2.262	2.821	3.250	4.297	4.781
10	0.879	1.093	1.372	1.812	2.228	2.764	3.169	4.144	4.587
11	0.876	1.088	1.363	1.796	2.201	2.718	3.106	4.025	4.437
12	0.873	1.083	1.356	1.782	2.179	2.681	3.055	3.930	4.318
13	0.870	1.079	1.350	1.771	2.160	2.650	3.012	3.852	4.221
14	0.868	1.076	1.345	1.761	2.145	2.624	2.977	3.787	4.140
15	0.866	1.074	1.341	1.753	2.131	2.602	2.947	3.733	4.073
16	0.865	1.071	1.337	1.746	2.120	2.583	2.921	3.686	4.015
17	0.863	1.069	1.333	1.740	2.110	2.567	2.898	3.646	3.965
18	0.862	1.067	1.330	1.734	2.101	2.552	2.878	3.610	3.922
19	0.861	1.066	1.328	1.729	2.093	2.539	2.861	3.579	3.883
20	0.860	1.064	1.325	1.725	2.086	2.528	2.845	3.552	3.850
21	0.859	1.063	1.323	1.721	2.080	2.518	2.831	3.527	3.819
22	0.858	1.061	1.321	1.717	2.074	2.508	2.819	3.505	3.792
23	0.858	1.060	1.319	1.714	2.069	2.500	2.807	3.485	3.768
24	0.857	1.059	1.318	1.711	2.064	2.492	2.797	3.467	3.745
25	0.856	1.058	1.316	1.708	2.060	2.485	2.787	3.450	3.725
26	0.856	1.058	1.315	1.706	2.056	2.479	2.779	3.435	3.707
27	0.855	1.057	1.314	1.703	2.052	2.473	2.771	3.421	3.690
28	0.855	1.056	1.313	1.701	2.048	2.467	2.763	3.408	3.674
29	0.854	1.055	1.311	1.699	2.045	2.462	2.756	3.396	3.659
30	0.854	1.055	1.310	1.697	2.042	2.457	2.750	3.385	3.646
31	0.853	1.054	1.309	1.696	2.040	2.453	2.744	3.375	3.633
32	0.853	1.054	1.309	1.694	2.037	2.449	2.738	3.365	3.622
33	0.853	1.053	1.308	1.692	2.035	2.445	2.733	3.356	3.611
34	0.852	1.052	1.307	1.691	2.032	2.441	2.728	3.348	3.601
35	0.852	1.052	1.306	1.690	2.030	2.438	2.724	3.340	3.591
36	0.852	1.052	1.306	1.688	2.028	2.434	2.719	3.333	3.582
37	0.851	1.051	1.305	1.687	2.026	2.431	2.715	3.326	3.574
38	0.851	1.051	1.304	1.686	2.024	2.429	2.712	3.319	3.566
39	0.851	1.050	1.304	1.685	2.023	2.426	2.708	3.313	3.558
40	0.851	1.050	1.303	1.684	2.021	2.423	2.704	3.307	3.551
∞	0.842	1.036	1.282	1.645	1.960	2.326	2.576	3.090	3.291

Critical Values of the t Distribution

A table entry is the value of t_a , having an area to the right of a under a t distribution with df degrees of freedom.



df	$t_{0.20}$	$t_{0.15}$	$t_{0.10}$	$t_{0.05}$	$t_{0.025}$	$t_{0.01}$	$t_{0.005}$	$t_{0.001}$	$t_{0.0005}$
45	0.850	1.049	1.301	1.679	2.014	2.412	2.690	3.281	3.520
50	0.849	1.047	1.299	1.676	2.009	2.403	2.678	3.261	3.496
55	0.848	1.046	1.297	1.673	2.004	2.396	2.668	3.245	3.476
60	0.848	1.045	1.296	1.671	2.000	2.390	2.660	3.232	3.460
65	0.847	1.045	1.295	1.669	1.997	2.385	2.654	3.220	3.447
70	0.847	1.044	1.294	1.667	1.994	2.381	2.648	3.211	3.435
75	0.846	1.044	1.293	1.665	1.992	2.377	2.643	3.202	3.425
80	0.846	1.043	1.292	1.664	1.990	2.374	2.639	3.195	3.416
85	0.846	1.043	1.292	1.663	1.988	2.371	2.635	3.189	3.409
90	0.846	1.042	1.291	1.662	1.987	2.368	2.632	3.183	3.402
95	0.845	1.042	1.291	1.661	1.985	2.366	2.629	3.178	3.396
100	0.845	1.042	1.290	1.660	1.984	2.364	2.626	3.174	3.390
150	0.844	1.040	1.287	1.655	1.976	2.351	2.609	3.145	3.357
200	0.843	1.039	1.286	1.653	1.972	2.345	2.601	3.131	3.340
250	0.843	1.039	1.285	1.651	1.969	2.341	2.596	3.123	3.330
300	0.843	1.038	1.284	1.650	1.968	2.339	2.592	3.118	3.323
350	0.843	1.038	1.284	1.649	1.967	2.337	2.590	3.114	3.319
400	0.843	1.038	1.284	1.649	1.966	2.336	2.588	3.111	3.315
450	0.842	1.038	1.283	1.648	1.965	2.335	2.587	3.108	3.312
500	0.842	1.038	1.283	1.648	1.965	2.334	2.586	3.107	3.310
550	0.842	1.037	1.283	1.648	1.964	2.333	2.585	3.105	3.308
600	0.842	1.037	1.283	1.647	1.964	2.333	2.584	3.104	3.307
650	0.842	1.037	1.283	1.647	1.964	2.332	2.583	3.103	3.306
700	0.842	1.037	1.283	1.647	1.963	2.332	2.583	3.102	3.304
750	0.842	1.037	1.283	1.647	1.963	2.331	2.582	3.101	3.304
800	0.842	1.037	1.283	1.647	1.963	2.331	2.582	3.100	3.303
850	0.842	1.037	1.283	1.647	1.963	2.331	2.582	3.100	3.302
900	0.842	1.037	1.282	1.647	1.963	2.330	2.581	3.099	3.301
950	0.842	1.037	1.282	1.646	1.962	2.330	2.581	3.099	3.301
1000	0.842	1.037	1.282	1.646	1.962	2.330	2.581	3.098	3.300
2000	0.842	1.037	1.282	1.646	1.961	2.328	2.578	3.094	3.295
3000	0.842	1.037	1.282	1.645	1.961	2.328	2.577	3.093	3.294
4000	0.842	1.037	1.282	1.645	1.961	2.327	2.577	3.092	3.293
5000	0.842	1.037	1.282	1.645	1.960	2.327	2.577	3.092	3.292
∞	0.842	1.036	1.282	1.645	1.960	2.326	2.576	3.090	3.291