

T Distribution table

Description: This table provides the quantiles (percentiles) corresponding to the given probabilities (areas) listed at the top.

To get quantiles (percentiles):

1. Use the correct row at the top of the table based on whether you are doing a:
 - (1) one sided (directional) test,
 - (2) two sided (non-directional) test, or
 - (3) getting confidence intervals.
2. Use your value of α and go down the column until you get to the row for your degrees of freedom.

For example, you want to find the quantile corresponding to $\alpha = 0.05$ using $d.f. = 7$. You are doing a two sided (non-directional) test.

Use the second row at the top of the table (the one labeled two sided probabilities). Go across until you see 0.05. then go down until you intersect the row labeled 7. You should see **2.365**.

To get approximate p -values (to bracket p -values):

1. Find the correct row for the degrees of freedom you are using.
2. Go across until you find the two numbers that bracket your number (t^*).
3. Now go to the top and read off the two probabilities that correspond with the columns of the two numbers that bracket your number.

Your p -value is between these two probabilities.

Note: If your number is larger or smaller than the biggest or smallest number in your row, you can't bracket your p -value. You can only do $p <$ or $p >$ the probability at the top of the table.

For example, you calculate $t^* = 1.67$ with $d.f. = 7$ and you want to bracket your p -value. You are doing a one sided test.

Go into the row for $d.f. = 7$ and move across.

You find that 1.67 is between 1.415 and 1.895.

Move to the top of the table and consult the row for *One sided probabilities*. You find 0.1 and 0.05. So you can write:

$$0.05 < p < 0.10.$$

In other words, your p -value is between 0.05 and 0.10.

Table 3. *t*-distribution table.

One sided probabilities	0.2	0.1	0.05	0.025	0.01	0.005	0.001	0.0005	0.0001
Two sided probabilities	0.4	0.2	0.1	0.05	0.02	0.01	0.002	0.001	0.0002
Percent CI	60%	80%	90%	95%	98%	99%	99.8%	99.9%	99.98%
df									
1	1.376	3.078	6.314	12.706	31.821	63.657	318.309	636.619	3183.009
2	1.061	1.886	2.920	4.303	6.965	9.925	22.327	31.599	70.700
3	0.978	1.638	2.353	3.182	4.541	5.841	10.215	12.924	22.204
4	0.941	1.533	2.132	2.776	3.747	4.604	7.173	8.610	13.034
5	0.920	1.476	2.015	2.571	3.365	4.032	5.893	6.869	9.678
6	0.906	1.440	1.943	2.447	3.143	3.707	5.208	5.959	8.025
7	0.896	1.415	1.895	2.365	2.998	3.499	4.785	5.408	7.063
8	0.889	1.397	1.860	2.306	2.896	3.355	4.501	5.041	6.442
9	0.883	1.383	1.833	2.262	2.821	3.250	4.297	4.781	6.010
10	0.879	1.372	1.812	2.228	2.764	3.169	4.144	4.587	5.694
11	0.876	1.363	1.796	2.201	2.718	3.106	4.025	4.437	5.453
12	0.873	1.356	1.782	2.179	2.681	3.055	3.930	4.318	5.263
13	0.870	1.350	1.771	2.160	2.650	3.012	3.852	4.221	5.111
14	0.868	1.345	1.761	2.145	2.624	2.977	3.787	4.140	4.985
15	0.866	1.341	1.753	2.131	2.602	2.947	3.733	4.073	4.880
16	0.865	1.337	1.746	2.120	2.583	2.921	3.686	4.015	4.791
17	0.863	1.333	1.740	2.110	2.567	2.898	3.646	3.965	4.714
18	0.862	1.330	1.734	2.101	2.552	2.878	3.610	3.922	4.648
19	0.861	1.328	1.729	2.093	2.539	2.861	3.579	3.883	4.590
20	0.860	1.325	1.725	2.086	2.528	2.845	3.552	3.850	4.539
21	0.859	1.323	1.721	2.080	2.518	2.831	3.527	3.819	4.493
22	0.858	1.321	1.717	2.074	2.508	2.819	3.505	3.792	4.452
23	0.858	1.319	1.714	2.069	2.500	2.807	3.485	3.768	4.415
24	0.857	1.318	1.711	2.064	2.492	2.797	3.467	3.745	4.382
25	0.856	1.316	1.708	2.060	2.485	2.787	3.450	3.725	4.352
26	0.856	1.315	1.706	2.056	2.479	2.779	3.435	3.707	4.324
27	0.855	1.314	1.703	2.052	2.473	2.771	3.421	3.690	4.299
28	0.855	1.313	1.701	2.048	2.467	2.763	3.408	3.674	4.275
29	0.854	1.311	1.699	2.045	2.462	2.756	3.396	3.659	4.254
30	0.854	1.310	1.697	2.042	2.457	2.750	3.385	3.646	4.234
31	0.853	1.309	1.696	2.040	2.453	2.744	3.375	3.633	4.216
32	0.853	1.309	1.694	2.037	2.449	2.738	3.365	3.622	4.198
33	0.853	1.308	1.692	2.035	2.445	2.733	3.356	3.611	4.182
34	0.852	1.307	1.691	2.032	2.441	2.728	3.348	3.601	4.167
35	0.852	1.306	1.690	2.030	2.438	2.724	3.340	3.591	4.153
40	0.851	1.303	1.684	2.021	2.423	2.704	3.307	3.551	4.094
45	0.850	1.301	1.679	2.014	2.412	2.690	3.281	3.520	4.049
50	0.849	1.299	1.676	2.009	2.403	2.678	3.261	3.496	4.014
55	0.848	1.297	1.673	2.004	2.396	2.668	3.245	3.476	3.986
60	0.848	1.296	1.671	2.000	2.390	2.660	3.232	3.460	3.962
70	0.847	1.294	1.667	1.994	2.381	2.648	3.211	3.435	3.926
80	0.846	1.292	1.664	1.990	2.374	2.639	3.195	3.416	3.899
90	0.846	1.291	1.662	1.987	2.368	2.632	3.183	3.402	3.878
100	0.845	1.290	1.660	1.984	2.364	2.626	3.174	3.390	3.862
200	0.843	1.286	1.653	1.972	2.345	2.601	3.131	3.340	3.789
1000	0.842	1.282	1.646	1.962	2.330	2.581	3.098	3.300	3.733
10000	0.842	1.282	1.645	1.960	2.327	2.576	3.091	3.291	3.720
∞	0.842	1.282	1.645	1.960	2.326	2.576	3.090	3.291	3.719