

## 15.4: Appendix D- The t-Tables

The critical values shown are for use with non-directional (two-tailed) and directional (one-tailed) t-tests.

Degrees of Freedom	two-tailed test			one-tailed test	
	alpha level:	$\alpha = 0.05$	$\alpha = 0.01$	$\alpha = 0.05$	$\alpha = 0.01$
1		12.706	63.657	6.314	31.821
2		4.303	9.925	2.920	6.965
3		3.182	5.841	2.353	4.541
4		2.776	4.604	2.132	3.747
5		2.571	4.032	2.015	3.365
6		2.447	3.707	1.943	3.143
7		2.365	3.499	1.895	2.998
8		2.306	3.355	1.860	2.896
9		2.262	3.250	1.833	2.821
10		2.228	3.169	1.812	2.764
11		2.201	3.106	1.796	2.718
12		2.179	3.055	1.782	2.681
13		2.160	3.012	1.771	2.650
14		2.145	2.977	1.761	2.624
15		2.131	2.947	1.753	2.602
16		2.120	2.921	1.746	2.583
17		2.110	2.898	1.740	2.567
18		2.101	2.878	1.734	2.552
19		2.093	2.861	1.729	2.539
20		2.086	2.845	1.725	2.528
21		2.080	2.831	1.721	2.518
22		2.074	2.819	1.717	2.508
23		2.069	2.807	1.714	2.500
24		2.064	2.797	1.711	2.492
25		2.060	2.787	1.708	2.485
26		2.056	2.779	1.706	2.479
27		2.052	2.771	1.703	2.473
28		2.048	2.763	1.701	2.467
29		2.045	2.756	1.699	2.462
30		2.042	2.750	1.697	2.457
31		2.040	2.744	1.696	2.453

	two-tailed test		one-tailed test	
32	2.037	2.738	1.694	2.449
33	2.035	2.733	1.692	2.445
34	2.032	2.728	1.691	2.441
35	2.030	2.724	1.690	2.438
36	2.028	2.719	1.688	2.434
37	2.026	2.715	1.687	2.431
38	2.024	2.712	1.686	2.429
39	2.023	2.708	1.685	2.426
40	2.021	2.704	1.684	2.423

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