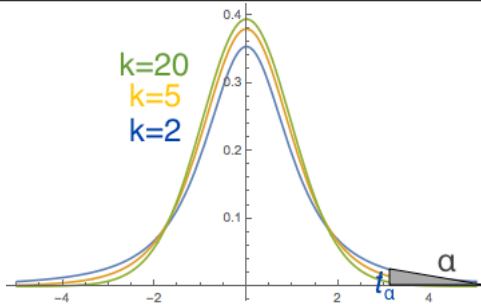




### t 分布表

$\alpha = P(T > t_\alpha(k))$  となる,  $t_\alpha(k)$  の値の表.  $k$  は自由度.

$k \backslash \alpha$	0.25	0.20	0.15	0.10	0.05	0.025	0.01	0.005	0.0025	0.001	0.00025
1	1.000	1.376	1.963	3.078	6.314	12.71	31.82	63.66	127.3	318.3	636.6
2	0.816	1.080	1.386	1.886	2.920	4.303	6.965	9.925	14.09	22.33	31.60
3	0.765	0.978	1.250	1.638	2.353	3.182	4.541	5.841	7.453	10.21	12.92
4	0.741	0.941	1.190	1.533	2.132	2.776	3.747	4.604	5.598	7.173	8.610
5	0.727	0.920	1.156	1.476	2.015	2.571	3.365	4.032	4.773	5.893	6.869
6	0.718	0.906	1.134	1.440	1.943	2.447	3.143	3.707	4.317	5.208	5.959
7	0.711	0.896	1.119	1.415	1.895	2.365	2.998	3.499	4.029	4.785	5.408
8	0.706	0.889	1.108	1.397	1.860	2.306	2.896	3.355	3.833	4.501	5.041
9	0.703	0.883	1.100	1.383	1.833	2.262	2.821	3.250	3.690	4.297	4.781
10	0.700	0.879	1.093	1.372	1.812	2.228	2.764	3.169	3.581	4.144	4.587
11	0.697	0.876	1.088	1.363	1.796	2.201	2.718	3.106	3.497	4.025	4.437
12	0.695	0.873	1.083	1.356	1.782	2.179	2.681	3.055	3.428	3.930	4.318
13	0.694	0.870	1.079	1.350	1.771	2.160	2.650	3.012	3.372	3.852	4.221
14	0.692	0.868	1.076	1.345	1.761	2.145	2.624	2.977	3.326	3.787	4.140
15	0.691	0.866	1.074	1.341	1.753	2.131	2.602	2.947	3.286	3.733	4.073
16	0.690	0.865	1.071	1.337	1.746	2.120	2.583	2.921	3.252	3.686	4.015
17	0.689	0.863	1.069	1.333	1.740	2.110	2.567	2.898	3.222	3.646	3.965
18	0.688	0.862	1.067	1.330	1.734	2.101	2.552	2.878	3.197	3.610	3.922
19	0.688	0.861	1.066	1.328	1.729	2.093	2.539	2.861	3.174	3.579	3.883
20	0.687	0.860	1.064	1.325	1.725	2.086	2.528	2.845	3.153	3.552	3.850
30	0.683	0.854	1.055	1.310	1.697	2.042	2.457	2.750	3.030	3.385	3.646
40	0.681	0.851	1.050	1.303	1.684	2.021	2.423	2.704	2.971	3.307	3.551
50	0.679	0.849	1.047	1.299	1.676	2.009	2.403	2.678	2.937	3.261	3.496
60	0.679	0.848	1.045	1.296	1.671	2.000	2.390	2.660	2.915	3.232	3.460
80	0.678	0.846	1.043	1.292	1.664	1.990	2.374	2.639	2.887	3.195	3.416
100	0.677	0.845	1.042	1.290	1.660	1.984	2.364	2.626	2.871	3.174	3.390
$+\infty$	0.674	0.842	1.036	1.282	1.645	1.960	2.326	2.576	2.807	3.090	3.291



# 1

1. 標本平均値  $\bar{X} = 60$ , 標本分散  $S^2 = \frac{1}{5-1}[3^2 + 1^2 + 2^2] = \frac{7}{2}$ . よって, 信頼係数 0.99 の信頼区間は,

$$60 - t_{0.005}(5-1)\sqrt{\frac{7}{2} \cdot \frac{1}{5}} < a < 65 + t_{0.005}(5-1)\sqrt{\frac{7}{2} \cdot \frac{1}{5}}$$
$$60 - 4.604\sqrt{\frac{7}{10}} < a < 60 + 4.604\sqrt{\frac{7}{10}}$$

2. 標本平均値  $\bar{Y} = 64$ , プールした標本分散  $S^2 = \frac{1}{5+7-2}[3^2 + 1^2 + 2^2 + 4^2 + 2^2 + 1^2 + 2^2 + 3^2] = \frac{24}{5}$ .  
よって, 信頼係数 0.95 の差の信頼区間は

$$60 - 64 - t_{0.025}(5+7-2)\sqrt{\frac{24}{5}\left(\frac{1}{5} + \frac{1}{7}\right)} < a - b < 60 - 64 + t_{0.025}(5+7-2)\sqrt{\frac{24}{5}\left(\frac{1}{5} + \frac{1}{7}\right)}$$
$$-4 - 2.228\sqrt{\frac{288}{165}} < a - b < -4 + 2.228\sqrt{\frac{288}{165}}$$