

Dunnett 檢定的臨界值 (雙尾檢定)
Critical values of Dunnett's test (two-tailed comparisons)

MS_w df	α	k (包含控制組的群組數)																		
		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
3	.05	3.182	3.867	4.263	4.538	4.748	4.916	5.056	5.176	5.280	5.372	5.455	5.529	5.597	5.660	5.717	5.771	5.821	5.868	5.912
	.01	5.841	6.974	7.639	8.104	8.460	8.746	8.985	9.189	9.367	9.525	9.666	9.794	9.910	10.017	10.116	10.208	10.294	10.375	10.450
4	.05	2.776	3.310	3.618	3.832	3.994	4.125	4.235	4.328	4.410	4.482	4.546	4.605	4.658	4.707	4.752	4.794	4.834	4.870	4.905
	.01	4.604	5.364	5.809	6.121	6.361	6.554	6.716	6.854	6.975	7.082	7.179	7.266	7.346	7.419	7.487	7.550	7.609	7.664	7.716
5	.05	2.571	3.030	3.293	3.476	3.615	3.727	3.821	3.900	3.970	4.032	4.087	4.137	4.183	4.225	4.264	4.300	4.334	4.366	4.395
	.01	4.032	4.627	4.975	5.219	5.406	5.557	5.683	5.792	5.887	5.971	6.047	6.116	6.178	6.236	6.289	6.339	6.386	6.429	6.470
6	.05	2.447	2.863	3.099	3.263	3.388	3.489	3.573	3.644	3.707	3.763	3.812	3.857	3.898	3.936	3.971	4.004	4.034	4.063	4.089
	.01	3.707	4.212	4.506	4.711	4.869	4.997	5.104	5.196	5.276	5.347	5.411	5.469	5.523	5.572	5.617	5.659	5.699	5.736	5.770
7	.05	2.365	2.752	2.971	3.123	3.238	3.331	3.408	3.475	3.533	3.584	3.630	3.671	3.709	3.744	3.777	3.807	3.835	3.861	3.886
	.01	3.499	3.948	4.208	4.389	4.529	4.642	4.736	4.817	4.888	4.951	5.008	5.059	5.106	5.150	5.190	5.227	5.262	5.295	5.326
8	.05	2.306	2.673	2.880	3.023	3.131	3.219	3.292	3.354	3.408	3.457	3.500	3.539	3.575	3.608	3.638	3.666	3.693	3.718	3.741
	.01	3.355	3.766	4.002	4.168	4.295	4.397	4.483	4.557	4.621	4.679	4.730	4.777	4.820	4.859	4.896	4.930	4.961	4.991	5.019
9	.05	2.262	2.614	2.812	2.948	3.052	3.135	3.205	3.264	3.316	3.362	3.403	3.440	3.474	3.506	3.535	3.562	3.587	3.610	3.633
	.01	3.250	3.633	3.853	4.006	4.124	4.219	4.299	4.367	4.427	4.480	4.528	4.571	4.611	4.647	4.681	4.713	4.742	4.770	4.796
10	.05	2.228	2.568	2.759	2.890	2.990	3.070	3.137	3.194	3.244	3.288	3.328	3.364	3.396	3.427	3.454	3.480	3.504	3.527	3.549
	.01	3.169	3.531	3.739	3.883	3.994	4.084	4.159	4.223	4.279	4.329	4.374	4.415	4.452	4.487	4.519	4.548	4.576	4.602	4.627
11	.05	2.201	2.532	2.717	2.845	2.941	3.019	3.084	3.139	3.187	3.230	3.268	3.303	3.334	3.363	3.390	3.415	3.439	3.461	3.481
	.01	3.106	3.452	3.649	3.787	3.892	3.978	4.049	4.110	4.164	4.211	4.254	4.293	4.328	4.361	4.391	4.419	4.446	4.470	4.494
12	.05	2.179	2.502	2.683	2.807	2.901	2.977	3.040	3.094	3.140	3.182	3.219	3.253	3.284	3.312	3.338	3.363	3.385	3.407	3.427
	.01	3.055	3.387	3.577	3.709	3.811	3.892	3.960	4.019	4.070	4.116	4.157	4.194	4.228	4.259	4.288	4.315	4.340	4.364	4.387
13	.05	2.160	2.478	2.654	2.776	2.868	2.942	3.003	3.056	3.102	3.142	3.179	3.212	3.242	3.269	3.295	3.319	3.341	3.362	3.381
	.01	3.012	3.335	3.518	3.646	3.743	3.822	3.888	3.944	3.994	4.038	4.077	4.113	4.146	4.176	4.204	4.230	4.254	4.277	4.299
14	.05	2.145	2.457	2.631	2.750	2.840	2.912	2.973	3.024	3.069	3.109	3.144	3.177	3.206	3.233	3.258	3.282	3.303	3.324	3.343
	.01	2.977	3.290	3.468	3.592	3.687	3.763	3.827	3.882	3.930	3.972	4.011	4.045	4.077	4.106	4.133	4.158	4.182	4.204	4.225
15	.05	2.131	2.439	2.610	2.727	2.816	2.887	2.946	2.997	3.041	3.080	3.115	3.147	3.176	3.202	3.227	3.250	3.271	3.291	3.310
	.01	2.947	3.253	3.426	3.547	3.639	3.713	3.776	3.829	3.875	3.917	3.954	3.988	4.019	4.047	4.073	4.098	4.121	4.142	4.163

MS_w df	α	k (包含控制組的群組數)																		
		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
16	.05	2.120	2.424	2.592	2.708	2.795	2.865	2.924	2.974	3.017	3.056	3.090	3.121	3.150	3.176	3.200	3.222	3.243	3.263	3.282
	.01	2.921	3.220	3.390	3.508	3.598	3.671	3.731	3.783	3.829	3.869	3.905	3.938	3.968	3.996	4.022	4.046	4.068	4.089	4.109
17	.05	2.110	2.410	2.577	2.691	2.777	2.846	2.904	2.953	2.996	3.034	3.068	3.099	3.127	3.152	3.176	3.199	3.219	3.239	3.257
	.01	2.898	3.192	3.359	3.474	3.563	3.634	3.693	3.744	3.788	3.828	3.863	3.896	3.925	3.952	3.977	4.001	4.023	4.043	4.062
18	.05	2.101	2.399	2.563	2.676	2.761	2.830	2.887	2.935	2.977	3.015	3.048	3.079	3.107	3.132	3.156	3.177	3.198	3.217	3.235
	.01	2.878	3.168	3.331	3.445	3.531	3.601	3.659	3.709	3.753	3.792	3.826	3.858	3.887	3.914	3.938	3.961	3.983	4.003	4.022
19	.05	2.093	2.388	2.551	2.663	2.747	2.815	2.871	2.919	2.961	2.998	3.031	3.061	3.089	3.114	3.137	3.159	3.179	3.198	3.216
	.01	2.861	3.146	3.307	3.419	3.504	3.572	3.630	3.679	3.722	3.760	3.794	3.825	3.853	3.879	3.904	3.926	3.947	3.967	3.986
20	.05	2.086	2.379	2.540	2.651	2.735	2.802	2.857	2.905	2.946	2.983	3.016	3.045	3.073	3.098	3.121	3.142	3.162	3.181	3.198
	.01	2.845	3.127	3.285	3.395	3.479	3.547	3.603	3.651	3.694	3.731	3.765	3.795	3.823	3.849	3.873	3.895	3.916	3.935	3.954
21	.05	2.080	2.370	2.531	2.640	2.723	2.790	2.845	2.892	2.933	2.969	3.002	3.031	3.058	3.083	3.106	3.127	3.147	3.165	3.183
	.01	2.831	3.109	3.266	3.375	3.457	3.524	3.579	3.627	3.669	3.706	3.739	3.769	3.797	3.822	3.845	3.867	3.888	3.907	3.925
22	.05	2.074	2.363	2.522	2.631	2.713	2.779	2.834	2.880	2.921	2.957	2.989	3.019	3.045	3.070	3.092	3.113	3.133	3.151	3.169
	.01	2.819	3.094	3.249	3.356	3.437	3.503	3.558	3.605	3.646	3.683	3.716	3.745	3.773	3.798	3.821	3.842	3.862	3.881	3.899
23	.05	2.069	2.356	2.514	2.622	2.704	2.769	2.824	2.870	2.910	2.946	2.978	3.007	3.033	3.058	3.080	3.101	3.121	3.139	3.156
	.01	2.807	3.080	3.233	3.339	3.420	3.485	3.539	3.585	3.626	3.662	3.694	3.724	3.751	3.775	3.798	3.820	3.840	3.858	3.876
24	.05	2.064	2.349	2.507	2.614	2.695	2.760	2.814	2.860	2.900	2.936	2.968	2.996	3.023	3.047	3.069	3.090	3.109	3.127	3.144
	.01	2.797	3.067	3.218	3.323	3.403	3.468	3.521	3.567	3.608	3.643	3.675	3.704	3.731	3.755	3.778	3.799	3.819	3.837	3.855
25	.05	2.060	2.344	2.500	2.607	2.688	2.752	2.806	2.851	2.891	2.927	2.958	2.987	3.013	3.037	3.059	3.080	3.099	3.117	3.134
	.01	2.787	3.055	3.205	3.309	3.388	3.452	3.505	3.551	3.591	3.626	3.658	3.686	3.713	3.737	3.759	3.780	3.800	3.818	3.835
26	.05	2.056	2.338	2.494	2.600	2.680	2.745	2.798	2.843	2.883	2.918	2.949	2.978	3.004	3.028	3.050	3.070	3.089	3.107	3.124
	.01	2.779	3.044	3.193	3.296	3.375	3.438	3.491	3.536	3.575	3.610	3.642	3.670	3.696	3.720	3.742	3.763	3.782	3.800	3.817
27	.05	2.052	2.333	2.488	2.594	2.674	2.738	2.791	2.836	2.875	2.910	2.941	2.970	2.995	3.019	3.041	3.061	3.080	3.098	3.115
	.01	2.771	3.034	3.182	3.284	3.362	3.425	3.477	3.522	3.561	3.596	3.627	3.655	3.681	3.705	3.727	3.747	3.766	3.784	3.801
28	.05	2.048	2.329	2.483	2.588	2.668	2.731	2.784	2.829	2.868	2.903	2.934	2.962	2.988	3.011	3.033	3.053	3.072	3.090	3.107
	.01	2.763	3.025	3.172	3.273	3.351	3.413	3.465	3.509	3.548	3.582	3.613	3.641	3.667	3.690	3.712	3.732	3.751	3.769	3.786

MS_w df	α	k (包含控制組的群組數)																		
		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
29	.05	2.045	2.325	2.478	2.583	2.662	2.725	2.778	2.823	2.862	2.896	2.927	2.955	2.981	3.004	3.026	3.046	3.065	3.082	3.099
	.01	2.756	3.017	3.162	3.263	3.340	3.402	3.453	3.497	3.536	3.570	3.600	3.628	3.654	3.677	3.699	3.719	3.738	3.755	3.772
30	.05	2.042	2.321	2.474	2.578	2.657	2.720	2.772	2.817	2.856	2.890	2.921	2.949	2.974	2.997	3.019	3.039	3.058	3.075	3.092
	.01	2.750	3.009	3.154	3.254	3.330	3.391	3.442	3.486	3.524	3.558	3.589	3.616	3.641	3.665	3.686	3.706	3.725	3.743	3.759
31	.05	2.040	2.317	2.469	2.574	2.652	2.715	2.767	2.811	2.850	2.884	2.915	2.942	2.968	2.991	3.012	3.032	3.051	3.068	3.085
	.01	2.744	3.001	3.145	3.245	3.321	3.381	3.432	3.476	3.514	3.547	3.578	3.605	3.630	3.653	3.675	3.695	3.713	3.731	3.747
32	.05	2.037	2.314	2.466	2.569	2.647	2.710	2.762	2.806	2.845	2.879	2.909	2.937	2.962	2.985	3.006	3.026	3.045	3.062	3.079
	.01	2.738	2.994	3.138	3.237	3.312	3.372	3.423	3.466	3.504	3.537	3.567	3.595	3.620	3.643	3.664	3.684	3.702	3.719	3.736
33	.05	2.035	2.310	2.462	2.565	2.643	2.705	2.757	2.801	2.840	2.873	2.904	2.931	2.956	2.979	3.001	3.021	3.039	3.056	3.073
	.01	2.733	2.988	3.131	3.229	3.304	3.364	3.414	3.457	3.495	3.528	3.558	3.585	3.610	3.633	3.654	3.673	3.692	3.709	3.725
34	.05	2.032	2.307	2.458	2.561	2.639	2.701	2.753	2.797	2.835	2.869	2.899	2.926	2.951	2.974	2.996	3.015	3.034	3.051	3.067
	.01	2.728	2.982	3.124	3.222	3.296	3.356	3.406	3.449	3.486	3.519	3.549	3.576	3.601	3.623	3.644	3.664	3.682	3.699	3.715
35	.05	2.030	2.305	2.455	2.558	2.635	2.697	2.748	2.792	2.830	2.864	2.894	2.922	2.947	2.969	2.991	3.010	3.029	3.046	3.062
	.01	2.724	2.976	3.118	3.215	3.289	3.349	3.398	3.441	3.478	3.511	3.541	3.567	3.592	3.614	3.635	3.655	3.673	3.690	3.706
36	.05	2.028	2.302	2.452	2.555	2.632	2.693	2.745	2.788	2.826	2.860	2.890	2.917	2.942	2.965	2.986	3.005	3.024	3.041	3.057
	.01	2.719	2.971	3.112	3.209	3.282	3.342	3.391	3.433	3.470	3.503	3.533	3.559	3.584	3.606	3.627	3.646	3.664	3.681	3.697
37	.05	2.026	2.299	2.449	2.551	2.628	2.690	2.741	2.784	2.822	2.856	2.886	2.913	2.938	2.960	2.981	3.001	3.019	3.036	3.052
	.01	2.715	2.966	3.106	3.203	3.276	3.335	3.384	3.426	3.463	3.496	3.525	3.552	3.576	3.598	3.619	3.638	3.656	3.673	3.689
38	.05	2.024	2.297	2.447	2.548	2.625	2.686	2.737	2.781	2.819	2.852	2.882	2.909	2.934	2.956	2.977	2.997	3.015	3.032	3.048
	.01	2.712	2.961	3.101	3.197	3.270	3.329	3.378	3.420	3.456	3.489	3.518	3.544	3.569	3.591	3.611	3.631	3.649	3.665	3.681
39	.05	2.023	2.295	2.444	2.546	2.622	2.683	2.734	2.777	2.815	2.848	2.878	2.905	2.930	2.952	2.973	2.993	3.011	3.028	3.044
	.01	2.708	2.957	3.096	3.192	3.264	3.323	3.372	3.413	3.450	3.482	3.511	3.538	3.562	3.584	3.604	3.623	3.641	3.658	3.674
40	.05	2.021	2.293	2.441	2.543	2.619	2.680	2.731	2.774	2.812	2.845	2.875	2.902	2.926	2.949	2.970	2.989	3.007	3.024	3.040
	.01	2.704	2.952	3.091	3.186	3.259	3.317	3.366	3.408	3.444	3.476	3.505	3.531	3.555	3.577	3.598	3.617	3.634	3.651	3.667
60	.05	2.000	2.265	2.410	2.508	2.582	2.642	2.691	2.733	2.769	2.801	2.830	2.856	2.880	2.901	2.922	2.940	2.958	2.974	2.989
	.01	2.660	2.898	3.030	3.121	3.190	3.246	3.292	3.332	3.366	3.397	3.424	3.449	3.472	3.493	3.512	3.530	3.547	3.563	3.578

MS_w df	k (包含控制組的群組數)																			
	α	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
80	.05	1.990	2.252	2.394	2.491	2.564	2.623	2.671	2.712	2.748	2.780	2.808	2.833	2.857	2.878	2.898	2.916	2.933	2.950	2.965
	.01	2.639	2.871	3.001	3.090	3.157	3.211	3.256	3.295	3.328	3.358	3.385	3.409	3.431	3.452	3.471	3.488	3.504	3.520	3.534
120	.05	1.980	2.238	2.379	2.475	2.547	2.604	2.651	2.692	2.727	2.758	2.786	2.811	2.834	2.855	2.875	2.893	2.910	2.925	2.940
	.01	2.617	2.845	2.972	3.059	3.124	3.177	3.221	3.259	3.291	3.320	3.346	3.370	3.392	3.411	3.430	3.447	3.463	3.478	3.492
240	.05	1.970	2.225	2.364	2.458	2.529	2.585	2.632	2.672	2.707	2.737	2.764	2.789	2.812	2.832	2.852	2.869	2.886	2.901	2.916
	.01	2.596	2.820	2.943	3.028	3.092	3.143	3.186	3.223	3.255	3.283	3.308	3.331	3.352	3.372	3.389	3.406	3.422	3.436	3.450
∞	.05	1.960	2.212	2.349	2.442	2.511	2.567	2.613	2.652	2.686	2.716	2.743	2.767	2.790	2.810	2.829	2.846	2.862	2.878	2.892
	.01	2.576	2.794	2.915	2.998	3.060	3.110	3.152	3.188	3.219	3.246	3.271	3.293	3.314	3.333	3.350	3.366	3.381	3.395	3.409

All values were calculated by the DCRIT function in Excel developed by Real Statistics Using Excel, <https://real-statistics.com/one-way-analysis-of-variance-anova/unplanned-comparisons/dunnetts-test-2/>