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Table 1: Alpha Values by Approximate Formula

$\bar{r}_{ij}$ Average inter- item correla- tion	Number of items in the test (n)											
	2	3	4	5	7	10	15	20	25	30	40	50
0.05	0.10	0.14	0.17	0.21	0.27	0.34	0.44	0.51	0.57	0.61	0.68	0.72
0.10	0.18	0.25	0.31	0.36	0.44	0.53	0.63	0.69	0.74	0.77	0.82	0.85
0.15	0.26	0.35	0.41	0.47	0.55	0.64	0.73	0.78	0.81	0.84	0.88	0.90
0.20	0.33	0.43	0.50	0.56	0.64	0.71	0.79	0.83	0.86	0.88	0.91	0.93
0.25	0.40	0.50	0.57	0.63	0.70	0.77	0.83	0.87	0.89	0.91	0.93	0.94
0.30	0.46	0.56	0.63	0.68	0.75	0.81	0.87	0.90	0.91	0.92	0.94	0.96
0.35	0.52	0.62	0.68	0.73	0.79	0.84	0.89	0.92	0.93	0.94	0.96	0.96
0.40	0.57	0.67	0.73	0.77	0.82	0.87	0.91	0.93	0.94	0.95	0.96	0.97
0.45	0.62	0.71	0.77	0.80	0.85	0.89	0.92	0.94	0.95	0.96	0.97	0.98
0.50	0.67	0.75	0.80	0.83	0.88	0.91	0.94	0.95	0.96	0.97	0.98	0.98
0.55	0.71	0.79	0.83	0.86	0.90	0.92	0.95	0.96	0.97	0.97	0.98	0.98
0.60	0.75	0.82	0.86	0.88	0.91	0.94	0.96	0.97	0.97	0.98	0.98	0.99
0.65	0.79	0.85	0.88	0.90	0.93	0.95	0.97	0.97	0.98	0.98	0.99	0.99
0.70	0.82	0.88	0.90	0.92	0.94	0.96	0.97	0.98	0.98	0.99	0.99	0.99
0.75	0.86	0.90	0.92	0.94	0.95	0.97	0.98	0.98	0.99	0.99	0.99	0.99
0.80	0.89	0.92	0.94	0.95	0.97	0.98	0.98	0.98	0.99	0.99	0.99	1.00

* Approximate formula: $\frac{n\bar{r}_{ij}}{1 + (n - 1)\bar{r}_{ij}}$

Table 2: Spearman rank order correlation coefficient values

<i>N</i>	Significance level (one-tailed test)	
	0.05	0.01
4	1.000	
5	0.900	1.000
6	0.829	0.943
7	0.714	0.893
8	0.643	0.833
9	0.600	0.783
10	0.564	0.746
12	0.506	0.712
14	0.456	0.645
16	0.425	0.601
18	0.399	0.564
20	0.377	0.534
22	0.359	0.508
24	0.343	0.485
26	0.329	0.465
28	0.317	0.448
30	0.306	0.432

Table 3: Pearson product moment correlation values

d.f.	0.05	0.01
1	0.997	0.9999
2	0.950	0.990
3	0.878	0.959
4	0.811	0.917
5	0.754	0.874
6	0.707	0.834
7	0.666	0.798
8	0.632	0.765
9	0.602	0.735
10	0.576	0.708
11	0.553	0.684
12	0.532	0.661
13	0.514	0.641
14	0.497	0.623
15	0.482	0.606
16	0.468	0.590
17	0.456	0.575
18	0.444	0.561
19	0.433	0.549
20	0.423	0.537
21	0.413	0.526
22	0.404	0.515
23	0.396	0.505
24	0.388	0.496
25	0.381	0.487
26	0.374	0.479
27	0.367	0.471
28	0.361	0.463
29	0.355	0.456
30	0.349	0.449
32	0.339	0.436
34	0.329	0.424

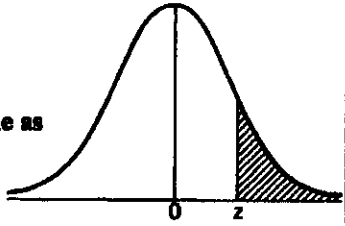
d.f.	0.05	0.01
35	0.325	0.418
36	0.320	0.413
38	0.312	0.403
40	0.304	0.393
42	0.297	0.384
44	0.291	0.376
45	0.288	0.372
46	0.284	0.368
48	0.279	0.361
50	0.273	0.354
55	0.261	0.338
60	0.250	0.325
65	0.241	0.313
70	0.232	0.302
75	0.224	0.292
80	0.217	0.283
85	0.211	0.275
90	0.205	0.267
95	0.200	0.260
100	0.195	0.254
125	0.174	0.228
150	0.159	0.208
175	0.148	0.193
200	0.138	0.181
300	0.113	0.148
400	0.098	0.128
500	0.088	0.115
1,000	0.062	0.081

Table 4: The chi-square (χ^2) distribution

d.f.	χ^2 distribution			
	Probability (P)			
	0.050	0.025	0.010	0.001
1	3.841	5.024	6.635	10.828
2	5.991	7.378	9.210	13.816
3	7.815	9.348	11.345	16.266
4	9.488	11.143	13.277	18.467
5	11.071	12.833	15.086	20.515
6	12.592	14.449	16.812	22.458
7	14.067	16.013	18.475	24.322
8	15.507	17.535	20.090	26.125
9	16.919	19.023	21.666	27.877
10	18.307	20.483	23.209	29.588
11	19.675	21.920	24.725	31.264
12	21.026	23.337	26.217	32.909
13	22.362	24.736	27.688	34.528
14	23.685	26.119	29.141	36.123
15	24.996	27.488	30.578	37.697
16	26.296	28.845	32.000	39.252
17	27.587	30.191	33.409	40.790
18	28.869	31.526	34.805	42.312
19	30.144	32.852	36.191	43.820
20	31.410	34.170	37.566	45.315
21	32.671	35.479	38.932	46.797
22	33.924	36.781	40.289	48.268
23	35.173	38.076	41.638	49.728
24	36.415	39.364	42.980	51.179
25	37.653	40.647	44.314	52.620
26	38.885	41.923	45.642	54.052
27	40.113	43.194	46.963	55.476
28	41.337	44.461	48.278	56.892
29	42.557	45.722	49.588	58.302
30	43.773	46.979	50.892	59.703
40	55.759	59.342	63.691	73.402
50	67.505	71.420	76.154	86.661
60	79.082	83.298	88.379	99.607
80	101.879	106.629	112.329	124.839
100	124.342	129.561	135.807	149.449

Degrees of freedom	0.05	0.01	Degrees of freedom	0.05	0.01
1	3.84	6.63	16	26.30	32.00
2	5.99	9.21	17	27.59	33.41
3	7.81	11.34	18	28.87	34.81
4	9.49	13.28	19	30.14	36.19
5	11.07	15.09	20	31.41	37.57
6	12.59	16.81	21	32.67	38.93
7	14.07	18.48	22	33.92	40.29
8	15.5	20.09	23	35.17	41.64
9	16.9	21.67	24	36.42	42.98
10	18.31	23.21	25	37.65	44.31
11	19.68	24.72	26	38.89	45.64
12	21.03	26.22	27	40.11	46.96
13	22.36	27.69	28	41.34	48.28
14	23.68	29.14	29	42.56	49.59
15	25.00	30.58	30	43.77	50.89

Table 5: Probabilities associated with values as extreme as observed value of Z in the Normal Curve of distribution

Probabilities associated with values as extreme as observed value of Z in the Normal Curve of Distribution 										
z	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.0	0.5000	0.4960	0.4920	0.4880	0.4840	0.4801	0.4761	0.4721	0.4681	0.4641
0.1	0.4602	0.4562	0.4522	0.4480	0.4443	0.4404	0.4364	0.4335	0.4286	0.4247
0.2	0.4207	0.4168	0.4129	0.4090	0.4052	0.4013	0.3974	0.3936	0.3897	0.3859
0.3	0.3821	0.3783	0.3745	0.3707	0.3669	0.3632	0.3594	0.3557	0.3520	0.3483
0.4	0.3446	0.3409	0.3372	0.3336	0.3300	0.3264	0.3228	0.3192	0.3156	0.3121
0.5	0.3085	0.3050	0.3015	0.2981	0.2946	0.2912	0.2877	0.2843	0.2810	0.2776
0.6	0.2743	0.2709	0.2676	0.2643	0.2611	0.2578	0.2546	0.2514	0.2483	0.2451
0.7	0.2420	0.2389	0.2358	0.2327	0.2296	0.2266	0.2236	0.2206	0.2177	0.2148
0.8	0.2119	0.2090	0.2061	0.2033	0.2005	0.1977	0.1949	0.1922	0.1894	0.1867
0.9	0.1841	0.1814	0.1788	0.1762	0.1736	0.1711	0.1685	0.1660	0.1635	0.1611
1.0	0.1587	0.1562	0.1539	0.1515	0.1492	0.1469	0.1446	0.1423	0.1401	0.1379
1.1	0.1357	0.1335	0.1314	0.1292	0.1271	0.1251	0.1230	0.1210	0.1190	0.1170
1.2	0.1151	0.1131	0.1112	0.1093	0.1075	0.1056	0.1038	0.1020	0.1003	0.0985
1.3	0.0968	0.0951	0.0934	0.0918	0.0901	0.0885	0.0869	0.0853	0.0838	0.0823
1.4	0.0808	0.0793	0.0778	0.0761	0.0749	0.0735	0.0721	0.0708	0.0694	0.0681
1.5	0.0668	0.0655	0.0643	0.0630	0.0618	0.0606	0.0594	0.0582	0.0571	0.0559
1.6	0.0548	0.0537	0.0526	0.0516	0.0505	0.0495	0.0485	0.0475	0.0465	0.0455
1.7	0.0446	0.0436	0.0427	0.0418	0.0409	0.0401	0.0392	0.0384	0.0375	0.0367
1.8	0.0359	0.0351	0.0344	0.0336	0.0329	0.0322	0.0314	0.0307	0.0301	0.0294
1.9	0.0287	0.0281	0.0274	0.0268	0.0262	0.0256	0.0250	0.0244	0.0239	0.0233
2.0	0.0228	0.0222	0.0217	0.0212	0.0207	0.0202	0.0197	0.0192	0.0188	0.0183
2.1	0.0179	0.0174	0.0170	0.0166	0.0162	0.0158	0.0154	0.0150	0.0146	0.0143
2.2	0.0139	0.0136	0.0132	0.0129	0.0125	0.0122	0.0119	0.0116	0.0113	0.0110
2.3	0.0107	0.0104	0.0102	0.0099	0.0096	0.0094	0.0091	0.0089	0.0087	0.0084
2.4	0.0082	0.0080	0.0078	0.0075	0.0073	0.0071	0.0069	0.0068	0.0066	0.0064
2.5	0.0062	0.0060	0.0059	0.0057	0.0055	0.0054	0.0052	0.0051	0.0049	0.0048
2.6	0.0047	0.0045	0.0044	0.0043	0.0041	0.0040	0.0039	0.0038	0.0037	0.0036
2.7	0.0035	0.0034	0.0033	0.0032	0.0031	0.0030	0.0029	0.0028	0.0027	0.0026
2.8	0.0026	0.0025	0.0024	0.0023	0.0023	0.0022	0.0021	0.0021	0.0020	0.0019
2.9	0.0019	0.0018	0.0018	0.0017	0.0016	0.0016	0.0015	0.0015	0.0014	0.0014
3.0	0.0013	0.0013	0.0013	0.0012	0.0012	0.0011	0.0011	0.0011	0.0010	0.0010
3.1	0.0010	0.0009	0.0009	0.0009	0.0008	0.0008	0.0008	0.0008	0.0007	0.0007
3.2	0.0007									
3.3	0.0005									
3.4	0.0003									
3.5	0.00023									
3.6	0.00016									
3.7	0.00011									
3.8	0.00007									
3.9	0.00005									
4.0	0.00003									

Read values of z to one decimal place down the left hand column *Column z* , Read across *Row z* for values to two decimal places. The probabilities contained in the table are *one-tailed*. For two-tailed tests, multiply by 2.

Examples

- (i) The probability of a $z \geq 0.14$ on a one-tailed test is $p = 0.4443$
- (ii) The probability of a $z \geq 1.98$ on a two-tailed test is $p = 2 \times (0.0239) = 0.0478$

Table 6: Critical values of D (or C) in the Fisher test

Totals in right margin	B (or A)†	Level of significance			
		.05	.025	.01	.005
$A+B=3$ $C+D=3$	3	0	—	—	—
$A+B=4$ $C+D=4$ $C+D=3$	4	0	0	—	—
	4	0	—	—	—
$A+B=5$ $C+D=5$ $C+D=4$ $C+D=3$ $C+D=2$	5	1	1	0	0
	4	0	0	—	—
	5	1	0	0	—
	4	0	—	—	—
	5	0	0	—	—
	5	0	—	—	—
$A+B=6$ $C+D=6$ $C+D=5$ $C+D=4$ $C+D=3$ $C+D=2$	6	2	1	1	0
	5	1	0	0	—
	4	0	—	—	—
	6	1	0	0	0
	5	0	0	—	—
	4	0	—	—	—
	6	1	0	0	0
	5	0	0	—	—
	6	0	0	—	—
	5	0	—	—	—
$A+B=7$ $C+D=7$ $C+D=6$ $C+D=5$ $C+D=4$ $C+D=3$ $C+D=2$	7	3	2	1	1
	6	1	1	0	0
	5	0	0	—	—
	4	0	—	—	—
	7	2	2	1	1
	6	1	0	0	0
	5	0	0	—	—
	4	0	—	—	—
	7	2	1	0	0
	6	1	0	0	—
	5	0	—	—	—
	7	1	1	0	0
	6	0	0	—	—
	5	0	—	—	—
	7	0	0	0	—
	6	0	—	—	—
	7	0	—	—	—

† 'When B is entered in the middle column, the significance levels are for D. When A is used in place of B, the significance levels are for C.'

Table of critical values of D (or C) in the Fisher test (continued)

Totals in right margin	B (or A)†	Level of significance			
		.05	.025	.01	.005
$A+B=8$ $C+D=8$	8	4	3	2	2
	7	2	2	1	0
	6	1	1	0	0
	5	0	0	—	—
	4	0	—	—	—
	$C+D=7$	8	3	2	1
		7	2	1	0
		6	1	0	—
	$C+D=6$	5	0	0	—
		8	2	2	1
		7	1	1	0
	$C+D=5$	6	0	0	—
		5	0	—	—
		8	2	1	0
	$C+D=4$	7	1	0	0
		6	0	0	—
		5	0	—	—
	$C+D=3$	8	1	1	0
		7	0	0	—
		6	0	—	—
	$C+D=2$	8	0	0	—
		7	0	0	—
$A+B=9$ $C+D=9$	9	5	4	3	3
	8	3	3	2	1
	7	2	1	1	0
	6	1	1	0	0
	5	0	0	—	—
	4	0	—	—	—
	$C+D=8$	9	4	3	2
		8	3	2	1
		7	2	1	0
	$C+D=7$	6	1	0	0
		5	0	0	—
		9	3	3	2
	$C+D=6$	8	2	2	1
		7	1	1	0
		6	0	0	—
	$C+D=5$	5	0	—	—
		9	0	—	—

Table of critical values of D (or C) in the Fisher test (continued)

Totals in right margin	B (or A)†	Level of significance			
		.05	.025	.01	.005
$A+B=9$ $C+D=6$	9	3	2	1	1
	8	2	1	0	0
	7	1	0	0	—
	6	0	0	—	—
	5	0	—	—	—
	$C+D=5$	9	2	1	1
		8	1	0	0
		7	0	—	—
	$C+D=4$	6	0	—	—
		9	1	0	0
		8	0	0	—
	$C+D=3$	7	0	—	—
		6	0	—	—
		9	1	0	0
	$C+D=2$	8	0	—	—
		7	0	—	—
		9	0	—	—
$A+B=10$ $C+D=10$	10	6	5	4	3
	9	4	3	3	2
	8	3	2	1	1
	7	2	1	1	0
	6	1	0	0	—
	5	0	0	—	—
	4	0	—	—	—
	$C+D=9$	10	5	4	3
		9	4	3	2
		8	2	2	1
		7	1	0	0
		6	1	0	—
	$C+D=8$	5	0	0	—
		10	4	4	2
		9	3	2	1
		8	2	1	0
		7	1	0	0
	$C+D=7$	6	0	—	—
		5	0	—	—
		10	3	2	2
		9	2	1	1
		8	1	0	0
		7	1	0	—
		6	0	—	—
	5	0	—	—	—

Table of critical values of D (or C) in the Fisher test (continued)

Totals in right margin	B (or A)†	Level of significance			
		.05	.025	.01	.005
$A+B=10$ $C+D=6$	10	3	2	2	1
	9	2	1	1	0
	8	1	1	0	0
	7	0	0	—	—
	6	0	—	—	—
	$C+D=5$	10	2	1	1
		9	1	0	0
		8	1	0	—
		7	0	0	—
	$C+D=4$	6	0	—	—
		10	1	0	0
		9	1	0	0
		8	0	0	—
	$C+D=3$	7	0	—	—
		10	1	0	0
		9	0	0	—
	$C+D=2$	8	0	—	—
		10	0	0	—
		9	0	—	—
$A+B=11$ $C+D=11$	11	7	6	5	4
	10	5	4	3	3
	9	4	3	2	2
	8	3	2	1	1
	7	2	1	0	0
	6	1	0	0	—
	5	0	0	—	—
	4	0	—	—	—
	$C+D=10$	11	6	5	4
		10	4	4	3
		9	3	3	2
		8	2	2	1
		7	1	1	0
		6	1	0	0
	$C+D=9$	5	0	—	—
		11	5	4	3
		10	4	3	2
		9	3	2	1
		8	2	1	0
		7	1	1	0
		6	0	0	—
		5	0	—	—

Table of critical values of D (or C) in the Fisher test (continued)

Totals in right margin	B (or A)†	Level of significance			
		.05	.025	.01	.005
$A+B=11$ $C+D=8$	11	4	4	3	3
	10	3	3	2	1
	9	2	2	1	1
	8	1	1	0	0
	7	1	0	0	—
	6	0	0	—	—
	5	0	—	—	—
	$C+D=7$	11	4	3	2
		10	3	2	1
		9	2	1	0
		8	1	1	0
		7	0	0	—
	$C+D=6$	6	0	0	—
		11	3	2	1
		10	2	1	0
		9	1	1	0
		8	1	0	—
	$C+D=5$	7	0	0	—
		6	0	—	—
		11	2	2	1
		10	1	1	0
		9	1	0	0
	$C+D=4$	8	0	0	—
		7	0	—	—
		11	1	1	1
		10	1	0	0
		9	0	0	—
	$C+D=3$	8	0	—	—
		11	1	0	0
		10	0	0	—
	$C+D=2$	9	0	—	—
		11	0	0	—
	10	0	—	—	—
$A+B=12$ $C+D=12$	12	8	7	6	5
	11	6	5	4	4
	10	5	4	3	2
	9	4	3	2	1
	8	3	2	1	1
	7	2	1	0	0
	6	1	0	0	—
	5	0	0	—	—
	4	0	—	—	—

Table of critical values of D (or C) in the Fisher test (continued)

Totals in right margin	B (or A)†	Level of significance			
		.05	.025	.01	.005
$A+B=12$ $C+D=11$	12	7	6	5	5
	11	5	5	4	3
	10	4	3	2	2
	9	3	2	2	1
	8	2	1	1	0
	7	1	1	0	0
	6	1	0	0	—
	5	0	0	—	—
	12	6	5	5	4
	11	5	4	3	3
	10	4	3	2	2
	9	3	2	1	1
$C+D=10$	8	2	1	0	0
	7	1	0	0	0
	6	0	0	—	—
	5	0	—	—	—
	12	5	5	4	3
	11	4	3	3	2
	10	3	2	2	1
	9	2	2	1	0
	8	1	1	0	0
	7	1	0	0	—
	6	0	0	—	—
	5	0	—	—	—
$C+D=9$	12	5	4	3	3
	11	3	3	2	2
	10	2	2	1	1
	9	2	1	1	0
	8	1	1	0	0
	7	0	0	—	—
	6	0	0	—	—
	5	0	—	—	—
	12	5	4	3	3
	11	3	3	2	2
	10	2	2	1	1
	9	2	1	1	0
$C+D=8$	8	1	1	0	0
	7	0	0	—	—
	6	0	0	—	—
	5	0	—	—	—
	12	4	3	3	2
	11	3	2	2	1
	10	2	1	1	0
	9	1	1	0	0
	8	1	0	0	—
	7	0	0	—	—
	6	0	—	—	—
	5	0	—	—	—
$C+D=7$	12	4	3	3	2
	11	3	2	2	1
	10	2	1	1	0
	9	1	1	0	0
	8	1	0	0	—
	7	0	0	—	—
	6	0	—	—	—

Table of critical values of D (or C) in the Fisher test (continued)

Totals in right margin	B (or A)†	Level of significance			
		.05	.025	.01	.005
$A+B=12$ $C+D=6$	12	3	3	2	2
	11	2	2	1	1
	10	1	1	0	0
	9	1	0	0	0
	8	0	0	—	—
	7	0	0	—	—
	6	0	—	—	—
	$C+D=5$	12	2	2	1
		11	1	1	0
		10	1	0	0
		9	0	0	—
		8	0	0	—
	$C+D=4$	7	0	—	—
		12	2	1	0
		11	1	0	0
		10	0	0	—
		9	0	0	—
	$C+D=3$	8	0	—	—
		12	1	0	0
		11	0	0	—
		10	0	0	—
	$C+D=2$	9	0	—	—
		12	0	0	—
		11	0	—	—
$A+B=13$ $C+D=13$	13	9	8	7	6
	12	7	6	5	4
	11	6	5	4	3
	10	4	4	3	2
	9	3	3	2	1
	8	2	2	1	0
	7	2	1	0	0
	6	1	0	0	—
	5	0	0	—	—
	4	0	—	—	—
	$C+D=12$	13	8	7	5
		12	6	5	4
		11	5	4	3
		10	4	3	2
		9	3	2	1
		8	2	1	0
		7	1	1	0
		6	1	0	—
		5	0	0	—

Table of critical values of D (or C) in the Fisher test (continued)

Totals in right margin	B (or A)†	Level of significance			
		.05	.025	.01	.005
$A+B=13$ $C+D=11$	13	7	6	5	5
	12	6	5	4	3
	11	4	4	3	2
	10	3	3	2	1
	9	3	2	1	1
	8	2	1	0	0
	7	1	0	0	0
	6	0	0	—	—
	5	0	—	—	—
	$C+D=10$	13	6	5	4
		12	5	4	3
		11	4	3	2
		10	3	2	1
		9	2	1	0
		8	1	0	0
		7	1	0	—
	$C+D=9$	6	0	0	—
		5	0	—	—
		13	5	4	4
		12	4	3	2
		11	3	2	1
		10	2	1	1
		9	2	1	0
	$C+D=8$	8	1	0	0
		7	0	0	—
		6	0	0	—
		5	0	—	—
		13	5	4	3
		12	4	3	2
		11	3	2	1
	$C+D=7$	10	2	1	0
		9	1	1	0
		8	1	0	—
		7	0	0	—
		6	0	—	—
		13	4	3	2
		12	3	2	1
		11	2	1	1
		10	1	1	0
		9	1	0	0
		8	0	0	—
		7	0	0	—
		6	0	—	—

Table of critical values of D (or C) in the Fisher test (continued)

Totals in right margin	B (or A) [†]	Level of significance			
		.05	.025	.01	.005
$A+B=13 \quad C+D=6$	13	3	3	2	2
	12	2	2	1	1
	11	2	1	1	0
	10	1	1	0	0
	9	1	0	0	—
	8	0	0	—	—
	7	0	—	—	—
	$C+D=5$	13	2	2	1
		12	2	1	1
		11	1	1	0
		10	1	0	0
	9	0	0	—	—
	8	0	—	—	—
	$C+D=4$	13	2	1	1
		12	1	1	0
		11	0	0	0
		10	0	0	—
	9	0	—	—	—
	$C+D=3$	13	1	1	0
		12	0	0	0
		11	0	0	—
		10	0	—	—
	$C+D=2$	13	0	0	—
		12	0	—	—
$A+B=14 \quad C+D=14$	14	10	9	8	7
	13	8	7	6	5
	12	6	6	5	4
	11	5	4	3	3
	10	4	3	2	2
	9	3	2	2	1
	8	2	2	1	0
	7	1	1	0	0
	6	1	0	0	—
	5	0	0	—	—
	4	0	—	—	—

Table of critical values of D (or C) in the Fisher test (continued)

Totals in right margin	B (or A)†	Level of significance			
		.05	.025	.01	.005
$A+B=14$ $C+D=13$	14	9	8	7	6
	13	7	6	5	5
	12	6	5	4	3
	11	5	4	3	2
	10	4	3	2	2
	9	3	2	1	1
	8	2	1	1	0
	7	1	1	0	0
	6	1	0	—	—
	5	0	0	—	—
	14	8	7	6	6
	13	6	6	5	4
	12	5	4	4	3
	11	4	3	3	2
$C+D=12$	10	3	3	2	1
	9	2	2	1	1
	8	2	1	0	0
	7	1	0	0	—
	6	0	0	—	—
	5	0	—	—	—
	14	7	6	6	5
	13	6	5	4	4
	12	5	4	3	3
	11	4	3	2	2
	10	3	2	1	1
	9	2	1	1	0
	8	1	1	0	0
	7	1	0	0	—
$C+D=11$	6	0	0	—	—
	5	0	—	—	—
	14	6	6	5	4
	13	5	4	4	3
	12	4	3	3	2
	11	3	3	2	1
	10	2	2	1	1
	9	2	1	0	0
	8	1	1	0	0
	7	0	0	0	—
	6	0	0	—	—
	5	0	—	—	—
	14	6	6	5	4
	13	5	4	4	3
	12	4	3	3	2
$C+D=10$	11	3	3	2	1
	10	2	2	1	1
	9	2	1	0	0
	8	1	1	0	0
	7	0	0	0	—
	6	0	0	—	—
	5	0	—	—	—

Table of critical values of D (or C) in the Fisher test (continued)

Totals in right margin	B (or A)†	Level of significance			
		.05	.025	.01	.005
$A = B = 14$ $C + D = 9$	14	6	5	4	4
	13	4	4	3	3
	12	3	3	2	2
	11	3	2	1	1
	10	2	1	1	0
	9	1	1	0	0
	8	1	0	0	—
	7	0	0	—	—
	6	0	—	—	—
	$C + D = 8$	14	5	4	4
		13	4	3	2
		12	3	2	1
		11	2	2	1
		10	2	1	0
		9	1	0	0
		8	0	0	—
	$C + D = 7$	7	0	0	—
		6	0	—	—
		14	4	3	3
		13	3	2	1
		12	2	2	1
		11	2	1	0
		10	1	1	0
	$C + D = 6$	9	1	0	0
		8	0	0	—
		7	0	—	—
		14	3	3	2
		13	2	2	1
		12	2	1	0
		11	1	1	0
	$C + D = 5$	10	1	0	0
		9	0	0	—
		8	0	0	—
		7	0	—	—
		14	2	2	1
		13	2	1	0
		12	1	1	0
		11	1	0	0
		10	0	0	—
		9	0	—	—
		8	0	—	—

Table of critical values of D (or C) in the Fisher test (continued)

Totals in right margin	B (or A)†	Level of significance			
		.05	.025	.01	.005
$A+B=14$ $C+D=4$	14	2	1	1	1
	13	1	1	0	0
	12	1	0	0	0
	11	0	0	—	—
	10	0	0	—	—
	9	0	—	—	—
	$C+D=3$	14	1	1	0
		13	0	0	0
		12	0	0	—
	$C+D=2$	11	0	—	—
		14	0	0	—
		13	0	0	—
	12	0	—	—	—
$A+B=15$ $C+D=15$	15	11	10	9	8
	14	9	8	7	6
	13	7	6	5	5
	12	6	5	4	4
	11	5	4	3	3
	10	4	3	2	2
	9	3	2	1	1
	8	2	1	1	0
	7	1	1	0	0
	6	1	0	0	—
	5	0	0	—	—
	4	0	—	—	—
	$C+D=14$	15	10	9	7
		14	8	7	6
		13	7	6	5
		12	6	5	4
		11	5	4	3
		10	4	3	2
		9	3	2	1
		8	2	1	1
		7	1	1	0
		6	1	0	0
		5	0	—	—
	5	0	—	—	—

Table of critical values of D (or C) in the Fisher test (continued)

Totals in right margin	B (or A) [†]	Level of significance			
		.05	.025	.01	.005
$A + B = 15 \quad C + D = 13$	15	9	8	7	7
	14	7	7	6	5
	13	6	5	4	4
	12	5	4	3	3
	11	4	3	2	2
	10	3	2	2	1
	9	2	2	1	0
	8	2	1	0	0
	7	1	0	0	—
	6	0	0	—	—
	5	0	—	—	—
	15	8	7	7	6
	14	7	6	5	4
	13	6	5	4	3
	12	5	4	3	2
$C + D = 12$	11	4	3	2	2
	10	3	2	1	1
	9	2	1	1	0
	8	1	1	0	0
	7	1	0	0	—
	6	0	0	—	—
	5	0	—	—	—
	15	7	7	6	5
	14	6	5	4	4
	13	5	4	3	3
	12	4	3	2	2
	11	3	2	2	1
	10	2	2	1	1
	9	2	1	0	0
	8	1	1	0	0
$C + D = 11$	7	1	0	0	—
	6	0	0	—	—
	5	0	—	—	—
	15	6	6	5	5
	14	5	5	4	3
	13	4	4	3	2
	12	3	3	2	2
	11	3	2	1	1
	10	2	1	1	0
	9	1	1	0	0
	8	1	0	0	—
	7	0	0	—	—
	6	0	—	—	—
	5	0	—	—	—
	15	6	6	5	5
$C + D = 10$	14	5	5	4	3
	13	4	4	3	2
	12	3	3	2	2
	11	3	2	1	1
	10	2	1	1	0
	9	1	1	0	0
	8	1	0	0	—
	7	0	0	—	—
	6	0	—	—	—

Table of critical values of D (or C) in the Fisher test (continued)

Totals in right margin	B (or A) [†]	Level of significance			
		.05	.025	.01	.005
$A+B=15 \quad C+D=9$	15	6	5	4	4
	14	5	4	3	3
	13	4	3	2	2
	12	3	2	2	1
	11	2	2	1	1
	10	2	1	0	0
	9	1	1	0	0
	8	1	0	0	—
	7	0	0	—	—
	6	0	—	—	—
$C+D=8$	15	5	4	4	3
	14	4	3	3	2
	13	3	2	2	1
	12	2	2	1	1
	11	2	1	1	0
	10	1	1	0	0
	9	1	0	0	—
	8	0	0	—	—
	7	0	—	—	—
	6	0	—	—	—
$C+D=7$	15	4	4	3	3
	14	3	3	2	2
	13	2	2	1	1
	12	2	1	1	0
	11	1	1	0	0
	10	1	0	0	0
	9	0	0	—	—
	8	0	0	—	—
	7	0	—	—	—
	6	0	—	—	—
$C+D=6$	15	3	3	2	2
	14	2	2	1	1
	13	2	1	1	0
	12	1	1	0	0
	11	1	0	0	0
	10	0	0	0	—
	9	0	0	—	—
	8	0	—	—	—
	7	0	—	—	—
	6	0	—	—	—
$C+D=5$	15	2	2	2	1
	14	2	1	1	1
	13	1	1	0	0
	12	1	0	0	0
	11	0	0	0	—
	10	0	0	—	—
	9	0	—	—	—
	8	0	—	—	—

Table of critical values of D (or C) in the Fisher test (continued)

Totals in right margin	B (or A) [†]	Level of significance			
		.05	.025	.01	.005
$A+B=15$ $C+D=4$	15	2	1	1	1
	14	1	1	0	0
	13	1	0	0	0
	12	0	0	0	—
	11	0	0	—	—
	10	0	—	—	—
$C+D=3$	15	1	1	0	0
	14	0	0	0	0
	13	0	0	—	—
	12	0	0	—	—
$C+D=2$	11	0	—	—	—
	15	0	0	0	—
	14	0	0	—	—
	13	0	—	—	—

Table 7: Estimates of r_t for various values of ad/bc

r_{est}	ad/bc	r_{est}	ad/bc	r_{est}	ad/bc
.00	0-1.00	.35	2.49-2.55	.70	8.50-8.90
.01	1.01-1.03	.36	2.56-2.63	.71	8.91-9.35
.02	1.04-1.06	.37	2.64-2.71	.72	9.36-9.82
.03	1.07-1.08	.38	2.72-2.79	.73	9.83-10.33
.04	1.09-1.11	.39	2.80-2.87	.74	10.34-10.90
.05	1.12-1.14	.40	2.88-2.96	.75	10.91-11.51
.06	1.15-1.17	.41	2.97-3.05	.76	11.52-12.16
.07	1.18-1.20	.42	3.06-3.14	.77	12.17-12.89
.08	1.21-1.23	.43	3.15-3.24	.78	12.90-13.70
.09	1.24-1.27	.44	3.25-3.34	.79	13.71-14.58
.10	1.28-1.30	.45	3.35-3.45	.80	14.59-15.57
.11	1.31-1.33	.46	3.46-3.56	.81	15.58-16.65
.12	1.34-1.37	.47	3.57-3.68	.82	16.66-17.88
.13	1.38-1.40	.48	3.69-3.80	.83	17.89-19.28
.14	1.41-1.44	.49	3.81-3.92	.84	19.29-20.85
.15	1.45-1.48	.50	3.93-4.06	.85	20.86-22.68
.16	1.49-1.52	.51	4.07-4.20	.86	22.69-24.76
.17	1.53-1.56	.52	4.21-4.34	.87	24.77-27.22
.18	1.57-1.60	.53	4.35-4.49	.88	27.23-30.09
.19	1.61-1.64	.54	4.50-4.66	.89	30.10-33.60
.20	1.65-1.69	.55	4.67-4.82	.90	33.61-37.79
.21	1.70-1.73	.56	4.83-4.99	.91	37.80-43.06
.22	1.74-1.78	.57	5.00-5.18	.92	43.07-49.83
.23	1.79-1.83	.58	5.19-5.38	.93	49.84-58.79
.24	1.84-1.88	.59	5.39-5.59	.94	58.80-70.95
.25	1.89-1.93	.60	5.60-5.80	.95	70.96-89.01
.26	1.94-1.98	.61	5.81-6.03	.96	89.02-117.54
.27	1.99-2.04	.62	6.04-6.28	.97	117.55-169.67
.28	2.05-2.10	.63	6.29-6.54	.98	169.68-293.12
.29	2.11-2.15	.64	6.55-6.81	.99	293.13-923.97
.30	2.16-2.22	.65	6.82-7.10	1.00	923.98...
.31	2.23-2.28	.66	7.11-7.42		
.32	2.29-2.34	.67	7.43-7.75		
.33	2.35-2.41	.68	7.76-8.11		
.34	2.42-2.48	.69	8.12-8.49		

Table 8: The t distribution

d.f.	Level of significance for one-tailed test			
	0.05	0.025	0.01	0.005
	Level of significance for two-tailed test			
	0.10	0.05	0.02	0.01
1	6.314	12.706	31.821	63.657
2	2.920	4.303	6.965	9.925
3	2.353	3.182	4.541	5.841
4	2.132	2.776	3.747	4.604
5	2.015	2.571	3.365	4.032
6	1.943	2.447	3.143	3.707
7	1.895	2.365	2.998	3.499
8	1.860	2.306	2.896	3.355
9	1.833	2.262	2.821	3.250
10	1.812	2.228	2.764	3.169
11	1.796	2.201	2.718	3.106
12	1.782	2.179	2.681	3.055
13	1.771	2.160	2.650	3.012
14	1.761	2.145	2.624	2.977
15	1.753	2.131	2.602	2.947
16	1.746	2.120	2.583	2.921
17	1.740	2.110	2.567	2.898
18	1.734	2.101	2.552	2.878
19	1.729	2.093	2.539	2.861
20	1.725	2.086	2.528	2.845
21	1.721	2.080	2.518	2.831
22	1.717	2.074	2.508	2.819
23	1.714	2.069	2.500	2.807
24	1.711	2.064	2.492	2.797
25	1.708	2.060	2.485	2.787
26	1.706	2.056	2.479	2.779
27	1.703	2.052	2.473	2.771
28	1.701	2.048	2.467	2.763
29	1.699	2.045	2.462	2.756
30	1.697	2.042	2.457	2.750
40	1.684	2.021	2.423	2.704
60	1.671	2.000	2.390	2.660
120	1.658	1.980	2.358	2.617
∞	1.645	1.960	2.326	2.576

Table 9: Table of critical values in the k -sample slippage test

Enter the part of the table for the current number of samples (k). Read across the row corresponding to the size (n) of each sample. The critical values for various levels of significance are found at the intersection of (k) and (n) under $p = .80; .90; .95; .98; .99$. Reject the null hypothesis when the obtained value exceeds the selected critical value.

	$k = 2$					$k = 3$					$k = 4$				
	$p=.80$	.90	.95	.98	.99	$p=.80$	.90	.95	.98	.99	$p=.80$	.90	.95	.98	.99
$n = 3$	2	2				2					3	3			
4	2	3	3			3	3				3	4	4		
5	2	3	3	4	4	3	3	4	4		3	4	4		
6	2	3	4	4	5	3	4	4	5	5	3	4	4	5	5
7	2	3	4	5	5	3	4	4	5	5	3	4	5	5	6
8	2	3	4	5	5	3	4	4	5	6	3	4	5	5	6
9	3	3	4	5	5	3	4	5	5	6	3	4	5	6	6
10	3	3	4	5	6	3	4	5	6	6	4	4	5	6	6
12	3	3	4	5	6	3	4	5	6	6	4	4	5	6	7
14	3	3	4	5	6	3	4	5	6	7	4	5	5	6	7
16	3	4	4	5	6	3	4	5	6	7	4	5	5	6	7
18	3	4	4	5	6	3	4	5	6	7	4	5	6	7	7
20	3	4	4	6	6	3	4	5	6	7	4	5	6	7	7
25	3	4	5	6	6	3	4	5	6	7	4	5	6	7	8
30	3	4	5	6	7	3	4	5	7	7	4	5	6	7	8
35	3	4	5	6	7	3	4	5	7	7	4	5	6	7	8
40	3	4	5	6	7	3	4	5	7	8	4	5	6	7	8
Approximation for $n > 40$	3	4	5	6	7	4	5	6	7	8	4	5	6	8	9

	$k = 5$					$k = 6$					$k = 7$				
	$p=.80$	.90	.95	.98	.99	$p=.80$	.90	.95	.98	.99	$p=.80$	.90	.95	.98	.99
$n = 4$	4	4				3	3				3				
5	3	4	4			3	4	4			3	4	4		
6	3	4	4	5	5	4	4	5	5	5	4	4	5	5	
7	3	4	5	5	6	4	4	5	5	6	4	4	5	6	6
8	4	4	5	6	6	4	4	5	6	6	4	5	5	6	6
9	4	4	5	6	6	4	5	5	6	7	4	5	5	6	7
10	4	5	5	6	7	4	5	5	6	7	4	5	6	6	7
12	4	5	5	6	7	4	5	6	7	7	4	5	6	7	7
14	4	5	6	7	7	4	5	6	7	7	4	5	6	7	8
16	4	5	6	7	7	4	5	6	7	8	4	5	6	7	8
18	4	5	6	7	8	4	5	6	7	8	4	5	6	7	8
20	4	5	6	7	8	4	5	6	7	8	4	5	6	7	8
25	4	5	6	7	8	4	5	6	7	8	5	6	6	8	8
30	4	5	6	7	8	4	5	6	8	8	5	6	7	8	9
35	4	5	6	7	8	4	5	6	8	9	5	6	7	8	9
40	4	5	6	7	8	4	6	7	8	9	5	6	7	8	9
Approximation for $n > 40$	4	6	7	8	9	5	6	7	8	9	5	6	7	9	10

	$k = 8$					$k = 9$					$k = 10$				
	$p=.80$	.90	.95	.98	.99	$p=.80$	.90	.95	.98	.99	$p=.80$	.90	.95	.98	.99
$n = 4$	3					3					3				
5	3	4	4			4	4	4			4	4	4		
6	4	4	5	5		4	4	5	5		4	4	5	5	
7	4	5	5	6	6	4	5	5	6	6	4	5	5	6	6
8	4	5	5	6	6	4	5	5	6	6	4	5	5	6	7
9	4	5	5	6	7	4	5	6	6	7	4	5	6	6	7
10	4	5	6	6	7	4	5	6	7	7	4	5	6	7	7
12	4	5	6	7	7	4	5	6	7	7	5	5	6	7	8
14	4	5	6	7	8	5	5	6	7	8	5	6	6	7	8
16	4	5	6	7	8	5	6	6	7	8	5	6	6	7	8
18	5	6	6	7	8	5	6	6	8	8	5	6	7	8	8
20	5	6	6	8	8	5	6	7	8	8	5	6	7	8	8
25	5	6	7	8	9	5	6	7	8	9	5	6	7	8	9
30	5	6	7	8	9	5	6	7	8	9	5	6	7	8	9
35	5	6	7	8	9	5	6	7	8	9	5	6	7	8	9
40	5	6	7	8	9	5	6	7	8	9	5	6	7	8	9
Approximation for $n > 40$	5	6	7	9	10	5	6	8	9	10	5	7	8	9	10