

Table 2x2

Table 38. Significance tests in a 2 x 2 contingency table

	a	Probability					a	Probability				
		0.05	0.025	0.01	0.005			0.05	0.025	0.01	0.005	
<b>A=3 B=3</b>	<b>3</b>	<b>0.050</b>	—	—	—	<b>A=8 B=8</b>	<b>8</b>	<b>4.038</b>	<b>3.013</b>	<b>2.003</b>	<b>2.003</b>	
							<b>7</b>	<b>2.020</b>	<b>2.020</b>	<b>1.005+</b>	<b>0.001</b>	
							<b>6</b>	<b>1.020</b>	<b>1.020</b>	<b>0.003</b>	<b>0.003</b>	
<b>A=4 B=4</b>	<b>4</b>	<b>0.014</b>	<b>0.014</b>	—	—		<b>5</b>	<b>0.013</b>	<b>0.013</b>	—	—	
	<b>3</b>	<b>0.029</b>	—	—	—		<b>4</b>	<b>0.038</b>	—	—	—	
							<b>7</b>	<b>8</b>	<b>3.026</b>	<b>2.007</b>	<b>2.007</b>	
							<b>7</b>	<b>7</b>	<b>2.035-</b>	<b>1.009</b>	<b>1.009</b>	
<b>A=5 B=5</b>	<b>5</b>	<b>1.024</b>	<b>1.024</b>	<b>0.004</b>	<b>0.004</b>		<b>6</b>	<b>1.032</b>	<b>0.006</b>	<b>0.006</b>	—	
	<b>4</b>	<b>0.024</b>	<b>0.024</b>	—	—		<b>5</b>	<b>0.019</b>	<b>0.019</b>	—	—	
							<b>6</b>	<b>8</b>	<b>2.015-</b>	<b>2.015-</b>	<b>1.003</b>	
	<b>4</b>	<b>5</b>	<b>1.048</b>	<b>0.008</b>	<b>0.008</b>	—	<b>7</b>	<b>1.016</b>	<b>1.016</b>	<b>0.002</b>	<b>0.002</b>	
							<b>6</b>	<b>0.009</b>	<b>0.009</b>	<b>0.009</b>	—	
	<b>4</b>	<b>4</b>	<b>0.040</b>	—	—	—	<b>5</b>	<b>0.028</b>	—	—	—	
	<b>3</b>	<b>5</b>	<b>0.018</b>	<b>0.018</b>	—	—	<b>5</b>	<b>8</b>	<b>2.035-</b>	<b>1.007</b>	<b>1.007</b>	
	<b>2</b>	<b>5</b>	<b>0.048</b>	—	—	—	<b>7</b>	<b>1.032</b>	<b>0.005-</b>	<b>0.005-</b>	<b>0.005-</b>	
							<b>6</b>	<b>0.016</b>	<b>0.016</b>	—	—	
<b>A=6 B=6</b>	<b>6</b>	<b>2.030</b>	<b>1.008</b>	<b>1.008</b>	<b>0.001</b>		<b>5</b>	<b>0.044</b>	—	—	—	
	<b>5</b>	<b>1.040</b>	<b>0.008</b>	<b>0.008</b>	—		<b>4</b>	<b>8</b>	<b>1.018</b>	<b>1.018</b>	<b>0.002</b>	
	<b>4</b>	<b>0.030</b>	—	—	—		<b>7</b>	<b>0.010+</b>	<b>0.010+</b>	—	—	
							<b>6</b>	<b>0.030</b>	—	—	—	
	<b>5</b>	<b>6</b>	<b>1.015+</b>	<b>1.015+</b>	<b>0.002</b>	<b>0.002</b>	<b>3</b>	<b>8</b>	<b>0.006</b>	<b>0.006</b>	<b>0.006</b>	
							<b>7</b>	<b>0.024</b>	<b>0.024</b>	—	—	
	<b>5</b>	<b>5</b>	<b>0.013</b>	<b>0.013</b>	—	—	<b>2</b>	<b>8</b>	<b>0.022</b>	<b>0.022</b>	—	
	<b>4</b>	<b>4</b>	<b>0.045+</b>	—	—	—						
	<b>4</b>	<b>6</b>	<b>1.033</b>	<b>0.005-</b>	<b>0.005-</b>	<b>0.005-</b>						
	<b>5</b>	<b>5</b>	<b>0.024</b>	<b>0.024</b>	—	—						
	<b>3</b>	<b>6</b>	<b>0.012</b>	<b>0.012</b>	—	—						
	<b>5</b>	<b>5</b>	<b>0.048</b>	—	—	—						
	<b>2</b>	<b>6</b>	<b>0.036</b>	—	—	—						
							<b>A=9 B=9</b>	<b>9</b>	<b>5.041</b>	<b>4.015-</b>	<b>3.005-</b>	<b>3.005-</b>
								<b>8</b>	<b>3.025-</b>	<b>3.025-</b>	<b>2.008</b>	
								<b>7</b>	<b>2.028</b>	<b>1.008</b>	<b>1.008</b>	
								<b>6</b>	<b>1.025-</b>	<b>1.025-</b>	<b>0.005-</b>	
								<b>5</b>	<b>0.015-</b>	<b>0.015-</b>	—	
								<b>4</b>	<b>0.041</b>	—	—	
								<b>8</b>	<b>9</b>	<b>4.029</b>	<b>3.009</b>	
								<b>8</b>	<b>3.043</b>	<b>2.013</b>	<b>1.003</b>	
								<b>7</b>	<b>2.044</b>	<b>1.012</b>	<b>0.002</b>	
								<b>6</b>	<b>1.036</b>	<b>0.007</b>	<b>0.007</b>	
								<b>5</b>	<b>0.020</b>	<b>0.020</b>	—	
								<b>7</b>	<b>9</b>	<b>3.019</b>	<b>3.019</b>	
								<b>8</b>	<b>2.024</b>	<b>2.024</b>	<b>1.006</b>	
								<b>7</b>	<b>1.020</b>	<b>1.020</b>	<b>0.003</b>	
								<b>6</b>	<b>0.010+</b>	<b>0.010+</b>	—	
								<b>5</b>	<b>0.029</b>	—	—	
								<b>6</b>	<b>9</b>	<b>3.044</b>	<b>2.011</b>	
								<b>8</b>	<b>2.047</b>	<b>1.011</b>	<b>0.001</b>	
								<b>7</b>	<b>1.035-</b>	<b>0.006</b>	<b>0.006</b>	
								<b>6</b>	<b>0.017</b>	<b>0.017</b>	—	
								<b>5</b>	<b>0.042</b>	—	—	

The table shows: (1) In bold type, for given a, A and B, the value of b (<a) which is just significant at the probability level quoted (single-tail test).

(2) In small type, for given A, B and r=a+b, the exact probability (if there is independence) that b is equal to or less than the integer shown in bold type.

Table 38 (continued)

	a	Probability					a	Probability						
		0-05	0-025	0-01	0-005			0-05	0-025	0-01	0-005			
A=9 B=5	4	9	2 -027	1 -005-	1 -005-	1 -005-	3	10	1 -038	0 -003	0 -003	0 -003		
		8	1 -023	1 -023	0 -003	0 -003		9	0 -014	0 -014	—	—		
		7	0 -010+	0 -010+	—	—		8	0 -035-	—	—	—		
		6	0 -028	—	—	—		7	0 -035-	—	—	—		
	3	9	1 -045+	0 -005-	0 -005-	0 -005-	2	10	0 -015+	0 -015+	—	—		
		8	0 -018	0 -018	—	—		9	0 -045+	—	—	—		
		7	0 -045+	—	—	—								
	2	9	0 -018	0 -018	—	—								
	A=10 B=10	10	10	6 -043	5 -016	4 -005+	3 -002	10	11	6 -035+	5 -012	4 -004	4 -004	
			9	4 -029	3 -010-	3 -010-	2 -003		10	4 -021	4 -021	3 -007	2 -002	
8			3 -035-	2 -012	1 -003	1 -003	9		3 -024	3 -024	2 -007	1 -002		
7			2 -035-	1 -010-	1 -010-	0 -002	8		2 -023	2 -023	1 -006	0 -001		
6			1 -029	0 -005+	0 -005+	—	7		1 -017	1 -017	0 -003	0 -003		
5			0 -016	0 -016	—	—	6		1 -043	0 -009	0 -009	—		
4			0 -043	—	—	—	5		0 -023	0 -023	—	—		
9			10	5 -033	4 -011	3 -003	3 -003		9	11	5 -026	4 -008	4 -008	3 -002
			9	4 -030-	3 -017	2 -005-	2 -005-			10	4 -038	3 -012	2 -003	2 -003
			8	2 -019	2 -019	1 -004	1 -004			9	3 -040	2 -012	1 -003	1 -003
		7	1 -015-	1 -015-	0 -002	0 -002	8	2 -035-		1 -009	1 -009	0 -001		
		6	1 -040	0 -008	0 -008	—	7	1 -025-		1 -025-	0 -004	0 -004		
		5	0 -022	0 -022	—	—	6	0 -012		0 -012	—	—		
		8	10	4 -023	4 -023	3 -007	2 -002	8		11	4 -018	4 -018	3 -005-	3 -005-
			9	3 -032	2 -009	2 -009	1 -002			10	3 -024	3 -024	2 -006	1 -001
			8	2 -031	1 -008	1 -008	0 -001			9	2 -022	2 -022	1 -005-	1 -005-
			7	1 -023	1 -023	0 -004	0 -004			8	1 -015-	1 -015-	0 -002	0 -002
6			0 -011	0 -011	—	—	7		1 -037	0 -007	0 -007	—		
5			0 -029	—	—	—	6		0 -017	0 -017	—	—		
7			10	3 -015-	3 -015-	2 -003	2 -003		7	11	4 -043	3 -011	2 -002	2 -002
			9	2 -018	2 -018	1 -004	1 -004			10	3 -047	2 -013	1 -002	1 -002
			8	1 -013	1 -013	0 -002	0 -002			9	2 -039	1 -009	1 -009	0 -001
			7	1 -036	0 -006	0 -006	—			8	1 -025-	1 -025-	0 -004	0 -004
		6	0 -017	0 -017	—	—	7	0 -010+		0 -010+	—	—		
		5	0 -041	—	—	—	6	0 -025-		0 -025-	—	—		
		6	10	3 -036	2 -008	2 -008	1 -001	6		11	3 -029	2 -006	2 -006	1 -001
			9	2 -036	1 -008	1 -008	0 -001			10	2 -028	1 -005+	1 -005+	0 -001
			8	1 -024	1 -024	0 -003	0 -003			9	1 -018	1 -018	0 -002	0 -002
			7	0 -010+	0 -010+	—	—							
6			0 -026	—	—	—								
5	10		2 -022	2 -022	1 -004	1 -004								
	9		1 -017	1 -017	0 -002	0 -002								
	8		1 -047	0 -007	0 -007	—								
	7		0 -019	0 -019	—	—								
	6		0 -042	—	—	—								

Table 38. Significance tests in a 2 x 2 contingency table (continued)

	a	Probability					a	Probability			
		0-05	0-025	0-01	0-005			0-05	0-025	0-01	0-005
A=11 B=6	8	<b>1</b> .043	<b>0</b> .007	<b>0</b> .007	—	A=12 B=9	7	<b>1</b> .037	<b>0</b> .007	<b>0</b> .007	—
	7	<b>0</b> .017	<b>0</b> .017	—	—		6	<b>0</b> .017	<b>0</b> .017	—	—
	6	<b>0</b> .037	—	—	—		5	<b>0</b> .039	—	—	—
	5	<b>11</b> <b>2</b> .018	<b>2</b> .018	<b>1</b> .003	<b>1</b> .003		8	<b>12</b> <b>5</b> .049	<b>4</b> .014	<b>3</b> .004	<b>3</b> .004
	10	<b>1</b> .013	<b>1</b> .013	<b>0</b> .001	<b>0</b> .001		11	<b>3</b> .018	<b>3</b> .018	<b>2</b> .004	<b>2</b> .004
	9	<b>1</b> .036	<b>0</b> .005-	<b>0</b> .005-	<b>0</b> .005-		10	<b>2</b> .015+	<b>2</b> .015+	<b>1</b> .003	<b>1</b> .003
	8	<b>0</b> .013	<b>0</b> .013	—	—		9	<b>2</b> .040	<b>1</b> .010-	<b>1</b> .010-	<b>0</b> .001
	7	<b>0</b> .029	—	—	—		8	<b>1</b> .025-	<b>1</b> .025-	<b>0</b> .004	<b>0</b> .004
	4	<b>11</b> <b>1</b> .009	<b>1</b> .009	<b>1</b> .009	<b>0</b> .001		7	<b>0</b> .010+	<b>0</b> .010+	—	—
	10	<b>1</b> .033	<b>0</b> .004	<b>0</b> .004	<b>0</b> .004		6	<b>0</b> .024	<b>0</b> .024	—	—
	9	<b>0</b> .011	<b>0</b> .011	—	—		7	<b>12</b> <b>4</b> .036	<b>3</b> .009	<b>3</b> .009	<b>2</b> .002
	8	<b>0</b> .026	—	—	—		11	<b>3</b> .038	<b>2</b> .010-	<b>2</b> .010-	<b>1</b> .002
	3	<b>11</b> <b>1</b> .033	<b>0</b> .003	<b>0</b> .003	<b>0</b> .003		10	<b>2</b> .029	<b>1</b> .006	<b>1</b> .006	<b>0</b> .001
	10	<b>0</b> .011	<b>0</b> .011	—	—		9	<b>1</b> .017	<b>1</b> .017	<b>0</b> .002	<b>0</b> .002
9	<b>0</b> .027	—	—	—	8	<b>1</b> .040	<b>0</b> .007	<b>0</b> .007	—		
2	<b>11</b> <b>0</b> .013	<b>0</b> .013	—	—	7	<b>0</b> .016	<b>0</b> .016	—	—		
10	<b>0</b> .038	—	—	—	6	<b>0</b> .034	—	—	—		
A=12 B=12	12	<b>8</b> .047	<b>7</b> .019	<b>6</b> .007	<b>5</b> .002	6	<b>12</b> <b>3</b> .025-	<b>3</b> .025-	<b>2</b> .005-	<b>2</b> .005-	
	11	<b>6</b> .034	<b>5</b> .014	<b>4</b> .005-	<b>4</b> .005-	11	<b>2</b> .022	<b>2</b> .022	<b>1</b> .004	<b>1</b> .004	
	10	<b>5</b> .045-	<b>4</b> .018	<b>3</b> .006	<b>2</b> .002	10	<b>1</b> .013	<b>1</b> .013	<b>0</b> .002	<b>0</b> .002	
	9	<b>4</b> .050-	<b>3</b> .020	<b>2</b> .006	<b>1</b> .001	9	<b>1</b> .032	<b>0</b> .005-	<b>0</b> .005-	<b>0</b> .005-	
	8	<b>3</b> .050-	<b>2</b> .018	<b>1</b> .005-	<b>1</b> .005-	8	<b>0</b> .011	<b>0</b> .011	—	—	
	7	<b>2</b> .045-	<b>1</b> .014	<b>0</b> .002	<b>0</b> .002	7	<b>0</b> .025-	<b>0</b> .025-	—	—	
	6	<b>1</b> .034	<b>0</b> .007	<b>0</b> .007	—	6	<b>0</b> .050-	—	—	—	
	5	<b>0</b> .019	<b>0</b> .019	—	—	5	<b>12</b> <b>2</b> .015-	<b>2</b> .015-	<b>1</b> .002	<b>1</b> .002	
	4	<b>0</b> .047	—	—	—	11	<b>1</b> .010-	<b>1</b> .010-	<b>1</b> .010-	<b>0</b> .001	
	11	<b>12</b> <b>7</b> .037	<b>6</b> .014	<b>5</b> .005-	<b>5</b> .005-	10	<b>1</b> .028	<b>0</b> .003	<b>0</b> .003	<b>0</b> .003	
	11	<b>5</b> .024	<b>5</b> .024	<b>4</b> .008	<b>3</b> .002	9	<b>0</b> .009	<b>0</b> .009	<b>0</b> .009	—	
	10	<b>4</b> .029	<b>3</b> .010+	<b>2</b> .003	<b>2</b> .003	8	<b>0</b> .020	<b>0</b> .020	—	—	
	9	<b>3</b> .030	<b>2</b> .009	<b>2</b> .009	<b>1</b> .002	7	<b>0</b> .041	—	—	—	
	8	<b>2</b> .026	<b>1</b> .007	<b>1</b> .007	<b>0</b> .001	4	<b>12</b> <b>2</b> .050	<b>1</b> .007	<b>1</b> .007	<b>0</b> .001	
	7	<b>1</b> .019	<b>1</b> .019	<b>0</b> .003	<b>0</b> .003	11	<b>1</b> .027	<b>0</b> .003	<b>0</b> .003	<b>0</b> .003	
	6	<b>1</b> .045-	<b>0</b> .009	<b>0</b> .009	—	10	<b>0</b> .008	<b>0</b> .008	<b>0</b> .008	—	
	5	<b>0</b> .024	<b>0</b> .024	—	—	9	<b>0</b> .019	<b>0</b> .019	—	—	
	10	<b>12</b> <b>6</b> .029	<b>5</b> .010-	<b>5</b> .010-	<b>4</b> .003	8	<b>0</b> .038	—	—	—	
	11	<b>5</b> .043	<b>4</b> .015+	<b>3</b> .005-	<b>3</b> .005-	3	<b>12</b> <b>1</b> .029	<b>0</b> .002	<b>0</b> .002	<b>0</b> .002	
	10	<b>4</b> .048	<b>3</b> .017	<b>2</b> .005-	<b>2</b> .005-	11	<b>0</b> .009	<b>0</b> .009	<b>0</b> .009	—	
	9	<b>3</b> .046	<b>2</b> .015-	<b>1</b> .004	<b>1</b> .004	10	<b>0</b> .022	<b>0</b> .022	—	—	
	8	<b>2</b> .038	<b>1</b> .010+	<b>0</b> .002	<b>0</b> .002	9	<b>0</b> .044	—	—	—	
	7	<b>1</b> .026	<b>0</b> .005-	<b>0</b> .005-	<b>0</b> .005-	2	<b>12</b> <b>0</b> .011	<b>0</b> .011	—	—	
	6	<b>0</b> .012	<b>0</b> .012	—	—	11	<b>0</b> .033	—	—	—	
	5	<b>0</b> .030	—	—	—	A=13 B=13	13	<b>9</b> .048	<b>8</b> .020	<b>7</b> .007	<b>6</b> .003
	9	<b>12</b> <b>5</b> .021	<b>5</b> .021	<b>4</b> .006	<b>3</b> .002		12	<b>7</b> .037	<b>6</b> .015+	<b>5</b> .006	<b>4</b> .002
	11	<b>4</b> .029	<b>3</b> .009	<b>3</b> .009	<b>2</b> .002		11	<b>6</b> .048	<b>5</b> .021	<b>4</b> .008	<b>3</b> .002
	10	<b>3</b> .029	<b>2</b> .008	<b>2</b> .008	<b>1</b> .002		10	<b>4</b> .024	<b>4</b> .024	<b>3</b> .008	<b>2</b> .002
9	<b>2</b> .024	<b>2</b> .024	<b>1</b> .006	<b>0</b> .001	9		<b>3</b> .024	<b>3</b> .024	<b>2</b> .008	<b>1</b> .002	
8	<b>1</b> .016	<b>1</b> .016	<b>0</b> .002	<b>0</b> .002	8		<b>2</b> .021	<b>2</b> .021	<b>1</b> .006	<b>0</b> .001	

The table shows: (1) In bold type, for given a, A and B, the value of b (<a) which is just significant at the probability level quoted (single-tail test).

(2) In small type, for given A, B and r=a+b, the exact probability (if there is independence) that b is equal to or less than the integer shown in bold type.

Table 38 (continued)

		Probability						Probability				
		a						a				
		0-05	0-025	0-01	0-005			0-05	0-025	0-01	0-005	
A=13 B=13	7	2 .048	1 .015 <sup>+</sup>	0 .003	0 .003	A=13 B=7	11	2 .022	2 .022	1 .004	1 .004	
	6	1 .037	0 .007	0 .007	—		10	1 .012	1 .012	0 .002	0 .002	
	5	0 .020	0 .020	—	—		9	1 .029	0 .004	0 .004	0 .004	
	4	0 .048	—	—	—		8	0 .010 <sup>+</sup>	0 .010 <sup>+</sup>	—	—	
	12	13	8 .039	7 .015 <sup>-</sup>	6 .005 <sup>+</sup>		5 .002	7	0 .022	0 .022	—	—
	12	6 .027	5 .010 <sup>-</sup>	5 .010 <sup>-</sup>	4 .003		6	0 .044	—	—	—	
	11	5 .033	4 .013	3 .004	3 .004		6	13	3 .021	3 .021	2 .004	2 .004
	10	4 .036	3 .013	2 .004	2 .004		12	2 .017	2 .017	1 .003	1 .003	
	9	3 .034	2 .011	1 .003	1 .003		11	2 .046	1 .010 <sup>-</sup>	1 .010 <sup>-</sup>	0 .001	
	8	2 .029	1 .008	1 .008	0 .001		10	1 .024	1 .024	0 .003	0 .003	
	7	1 .020	1 .020	0 .004	0 .004		9	1 .050 <sup>-</sup>	0 .008	0 .008	—	
	6	1 .046	0 .010 <sup>-</sup>	0 .010 <sup>-</sup>	—		8	0 .017	0 .017	—	—	
	5	0 .024	0 .024	—	—		7	0 .034	—	—	—	
11	13	7 .031	6 .011	5 .003	5 .003	5	13	2 .012	2 .012	1 .002	1 .002	
12	6 .048	5 .018	4 .006	3 .002	12	2 .044	1 .008	1 .008	0 .001			
11	4 .021	4 .021	3 .007	2 .002	11	1 .022	1 .022	0 .002	0 .002			
10	3 .021	3 .021	2 .006	1 .001	10	1 .047	0 .007	0 .007	—			
9	3 .050 <sup>-</sup>	2 .017	1 .004	1 .004	9	0 .015 <sup>-</sup>	0 .015 <sup>-</sup>	—	—			
8	2 .040	1 .011	0 .002	0 .002	8	0 .029	—	—	—			
7	1 .027	0 .005 <sup>-</sup>	0 .005 <sup>-</sup>	0 .005 <sup>-</sup>	4	13	2 .044	1 .006	1 .006	0 .000		
6	0 .013	0 .013	—	—	12	1 .022	1 .022	0 .002	0 .002			
5	0 .030	—	—	—	11	0 .006	0 .006	0 .006	—			
10	13	6 .024	6 .024	5 .007	4 .002	10	0 .015 <sup>-</sup>	0 .015 <sup>-</sup>	—	—		
12	5 .035 <sup>-</sup>	4 .012	3 .003	3 .003	9	0 .029	—	—	—			
11	4 .037	3 .012	2 .003	2 .003	3	13	1 .025	1 .025	0 .002	0 .002		
10	3 .033	2 .010 <sup>+</sup>	1 .002	1 .002	12	0 .007	0 .007	0 .007	—			
9	2 .026	1 .006	1 .006	0 .001	11	0 .018	0 .018	—	—			
8	1 .017	1 .017	0 .003	0 .003	10	0 .036	—	—	—			
7	1 .038	0 .007	0 .007	—	2	13	0 .010 <sup>-</sup>	0 .010 <sup>-</sup>	0 .010 <sup>-</sup>			
6	0 .017	0 .017	—	—	12	0 .029	—	—	—			
5	0 .038	—	—	—								
9	13	5 .017	5 .017	4 .005 <sup>-</sup>	4 .005 <sup>-</sup>	A=14 B=14	14	10 .049	9 .020	8 .008	7 .003	
12	4 .023	4 .023	3 .007	2 .001	13		8 .038	7 .016	6 .006	5 .002		
11	3 .022	3 .022	2 .006	1 .001	12		6 .023	6 .023	5 .009	4 .003		
10	2 .017	2 .017	1 .004	1 .004	11		5 .027	4 .011	3 .004	3 .004		
9	2 .040	1 .010 <sup>+</sup>	0 .001	0 .001	10		4 .028	3 .011	2 .003	2 .003		
8	1 .025 <sup>-</sup>	1 .025 <sup>-</sup>	0 .004	0 .004	9		3 .027	2 .009	2 .009	1 .002		
7	0 .010 <sup>+</sup>	0 .010 <sup>+</sup>	—	—	8		2 .023	2 .023	1 .006	0 .001		
6	0 .023	0 .023	—	—	7		1 .016	1 .016	0 .003	0 .003		
5	0 .049	—	—	—	6		1 .038	0 .008	0 .008	—		
8	13	5 .042	4 .012	3 .003	3 .003		5	0 .020	0 .020	—	—	
12	4 .047	3 .014	2 .003	2 .003	4		0 .049	—	—	—		
11	3 .041	2 .011	1 .002	1 .002	13		14	9 .041	8 .016	7 .006	6 .002	
10	2 .029	1 .007	1 .007	0 .001	13		7 .029	6 .011	5 .004	5 .004		
9	1 .017	1 .017	0 .002	0 .002	12	6 .037	5 .015 <sup>+</sup>	4 .005 <sup>+</sup>	3 .002			
8	1 .037	0 .006	0 .006	—	11	5 .041	4 .017	3 .006	2 .001			
7	0 .015 <sup>-</sup>	0 .015 <sup>-</sup>	—	—	10	4 .041	3 .016	2 .005 <sup>-</sup>	2 .005 <sup>-</sup>			
6	0 .032	—	—	—	9	3 .038	2 .013	1 .003	1 .003			
7	13	4 .031	3 .007	3 .007	2 .001	8	2 .031	1 .009	1 .009	0 .001		
12	3 .031	2 .007	2 .007	1 .001								

Table 2x2

Table 38. Significance tests in a 2 x 2 contingency table (continued)

	a	Probability					a	Probability					
		0-05	0-025	0-01	0-005			0-05	0-025	0-01	0-005		
A=14 B=13	7	<b>1</b> -021	<b>1</b> -021	<b>0</b> -004	<b>0</b> -004	A=14 B=7	14	<b>4</b> -026	<b>3</b> -006	<b>3</b> -006	<b>2</b> -001		
	6	<b>1</b> -048	<b>0</b> -010 <sup>+</sup>	—	—		13	<b>3</b> -025	<b>2</b> -006	<b>2</b> -006	<b>1</b> -001		
	5	<b>0</b> -025 <sup>-</sup>	<b>0</b> -025 <sup>-</sup>	—	—		12	<b>2</b> -017	<b>2</b> -017	<b>1</b> -003	<b>1</b> -003		
	12	14	<b>8</b> -033	<b>7</b> -012	<b>6</b> -004		<b>6</b> -004	11	<b>2</b> -041	<b>1</b> -009	<b>1</b> -009	<b>0</b> -001	
		13	<b>6</b> -021	<b>6</b> -021	<b>5</b> -007		<b>4</b> -002	10	<b>1</b> -021	<b>1</b> -021	<b>0</b> -003	<b>0</b> -003	
		12	<b>5</b> -023 <sup>+</sup>	<b>4</b> -009	<b>4</b> -009		<b>3</b> -003	9	<b>1</b> -043	<b>0</b> -007	<b>0</b> -007	—	
		11	<b>4</b> -026	<b>3</b> -009	<b>3</b> -009		<b>2</b> -002	8	<b>0</b> -015 <sup>-</sup>	<b>0</b> -015 <sup>-</sup>	—	—	
		10	<b>3</b> -024	<b>3</b> -024	<b>2</b> -007		<b>1</b> -002	7	<b>0</b> -030	—	—	—	
		9	<b>2</b> -019	<b>2</b> -019	<b>1</b> -005 <sup>-</sup>		<b>1</b> -005 <sup>-</sup>	6	14	<b>3</b> -018	<b>3</b> -018	<b>2</b> -003	<b>2</b> -003
		8	<b>2</b> -042	<b>1</b> -012	<b>0</b> -002		<b>0</b> -002		13	<b>2</b> -014	<b>2</b> -014	<b>1</b> -002	<b>1</b> -002
	7	<b>1</b> -028	<b>0</b> -005 <sup>+</sup>	<b>0</b> -005 <sup>+</sup>	—		12		<b>2</b> -037	<b>1</b> -007	<b>1</b> -007	<b>0</b> -001	
	6	<b>0</b> -013	<b>0</b> -013	—	—		11		<b>1</b> -018	<b>1</b> -018	<b>0</b> -002	<b>0</b> -002	
	5	<b>0</b> -030	—	—	—		10		<b>1</b> -038	<b>0</b> -005 <sup>+</sup>	<b>0</b> -005 <sup>+</sup>	—	
	11	14	<b>7</b> -026	<b>6</b> -009	<b>6</b> -009		<b>5</b> -003		9	<b>0</b> -012	<b>0</b> -012	—	—
13		<b>6</b> -039	<b>5</b> -014	<b>4</b> -004	<b>4</b> -004	8	<b>0</b> -024		<b>0</b> -024	—	—		
12		<b>5</b> -043	<b>4</b> -016	<b>3</b> -005 <sup>-</sup>	<b>3</b> -005 <sup>-</sup>	7	<b>0</b> -044	—	—	—			
11		<b>4</b> -042	<b>3</b> -015 <sup>-</sup>	<b>2</b> -004	<b>2</b> -004	5	14	<b>2</b> -010 <sup>+</sup>	<b>2</b> -010 <sup>+</sup>	<b>1</b> -001	<b>1</b> -001		
10		<b>3</b> -036	<b>2</b> -011	<b>1</b> -003	<b>1</b> -003		13	<b>2</b> -037	<b>1</b> -006	<b>1</b> -006	<b>0</b> -001		
9		<b>2</b> -027	<b>1</b> -007	<b>1</b> -007	<b>0</b> -001		12	<b>1</b> -017	<b>1</b> -017	<b>0</b> -002	<b>0</b> -002		
8		<b>1</b> -017	<b>1</b> -017	<b>0</b> -003	<b>0</b> -003		11	<b>1</b> -038	<b>0</b> -005 <sup>-</sup>	<b>0</b> -005 <sup>-</sup>	<b>0</b> -005 <sup>-</sup>		
7	<b>1</b> -038	<b>0</b> -007	<b>0</b> -007	—	10		<b>0</b> -011	<b>0</b> -011	—	—			
6	<b>0</b> -017	<b>0</b> -017	—	—	9		<b>0</b> -022	<b>0</b> -022	—	—			
5	<b>0</b> -038	—	—	—	8		<b>0</b> -040	—	—	—			
10	14	<b>6</b> -020	<b>6</b> -020	<b>5</b> -006	<b>4</b> -002	4	14	<b>2</b> -039	<b>1</b> -005 <sup>-</sup>	<b>1</b> -005 <sup>-</sup>	<b>1</b> -005 <sup>-</sup>		
	13	<b>5</b> -028	<b>4</b> -009	<b>4</b> -009	<b>3</b> -002		13	<b>1</b> -019	<b>1</b> -019	<b>0</b> -002	<b>0</b> -002		
	12	<b>4</b> -028	<b>3</b> -009	<b>3</b> -009	<b>2</b> -002		12	<b>1</b> -044	<b>0</b> -005 <sup>-</sup>	<b>0</b> -005 <sup>-</sup>	<b>0</b> -005 <sup>-</sup>		
	11	<b>3</b> -024	<b>3</b> -024	<b>2</b> -007	<b>1</b> -001		11	<b>0</b> -011	<b>0</b> -011	—	—		
	10	<b>2</b> -018	<b>2</b> -018	<b>1</b> -004	<b>1</b> -004		10	<b>0</b> -023	<b>0</b> -023	—	—		
	9	<b>2</b> -040	<b>1</b> -011	<b>0</b> -002	<b>0</b> -002		9	<b>0</b> -041	—	—	—		
	8	<b>1</b> -024	<b>1</b> -024	<b>0</b> -004	<b>0</b> -004		3	14	<b>1</b> -022	<b>1</b> -022	<b>0</b> -001	<b>0</b> -001	
	7	<b>0</b> -010 <sup>-</sup>	<b>0</b> -010 <sup>-</sup>	<b>0</b> -010 <sup>-</sup>	—	13		<b>0</b> -006	<b>0</b> -006	<b>0</b> -006	—		
	6	<b>0</b> -022	<b>0</b> -022	—	—	12		<b>0</b> -015 <sup>-</sup>	<b>0</b> -015 <sup>-</sup>	—	—		
	5	<b>0</b> -047	—	—	—	11		<b>0</b> -029	—	—	—		
	9	14	<b>6</b> -047	<b>5</b> -014	<b>4</b> -004	<b>4</b> -004		2	14	<b>0</b> -008	<b>0</b> -008	<b>0</b> -008	—
		13	<b>4</b> -018	<b>4</b> -018	<b>3</b> -005 <sup>-</sup>	<b>3</b> -005 <sup>-</sup>			13	<b>0</b> -025	<b>0</b> -025	—	—
		12	<b>3</b> -017	<b>3</b> -017	<b>2</b> -004	<b>2</b> -004			12	<b>0</b> -050	—	—	—
		11	<b>3</b> -042	<b>2</b> -012	<b>1</b> -002	<b>1</b> -002	A=15 B=15		15	<b>11</b> -050 <sup>-</sup>	<b>10</b> -021	<b>9</b> -008	<b>8</b> -003
10		<b>2</b> -029	<b>1</b> -007	<b>1</b> -007	<b>0</b> -001	14			<b>9</b> -040	<b>8</b> -018	<b>7</b> -007	<b>6</b> -003	
9		<b>1</b> -017	<b>1</b> -017	<b>0</b> -002	<b>0</b> -002	13			<b>7</b> -025 <sup>+</sup>	<b>6</b> -010 <sup>+</sup>	<b>5</b> -004	<b>5</b> -004	
8		<b>1</b> -036	<b>0</b> -006	<b>0</b> -006	—	12			<b>6</b> -030	<b>5</b> -013	<b>4</b> -005 <sup>-</sup>	<b>4</b> -005 <sup>-</sup>	
7	<b>0</b> -014	<b>0</b> -014	—	—	11	<b>5</b> -033		<b>4</b> -013	<b>3</b> -005 <sup>-</sup>	<b>3</b> -005 <sup>-</sup>			
6	<b>0</b> -030	—	—	—	10	<b>4</b> -033		<b>3</b> -013	<b>2</b> -004	<b>2</b> -004			
8	14	<b>5</b> -036	<b>4</b> -010 <sup>-</sup>	<b>4</b> -010 <sup>-</sup>	<b>3</b> -002	9		<b>3</b> -030	<b>2</b> -010 <sup>+</sup>	<b>1</b> -003	<b>1</b> -003		
	13	<b>4</b> -039	<b>3</b> -011	<b>2</b> -002	<b>2</b> -002	8		<b>2</b> -025 <sup>+</sup>	<b>1</b> -007	<b>1</b> -007	<b>0</b> -001		
	12	<b>3</b> -032	<b>2</b> -008	<b>2</b> -008	<b>1</b> -001	7		<b>1</b> -018	<b>1</b> -018	<b>0</b> -003	<b>0</b> -003		
	11	<b>2</b> -022	<b>2</b> -022	<b>1</b> -005 <sup>-</sup>	<b>1</b> -005 <sup>-</sup>	6		<b>1</b> -040	<b>0</b> -008	<b>0</b> -008	—		
	10	<b>2</b> -048	<b>1</b> -012	<b>0</b> -002	<b>0</b> -002	5		<b>0</b> -021	<b>0</b> -021	—	—		
	9	<b>1</b> -026	<b>0</b> -004	<b>0</b> -004	<b>0</b> -004	4		<b>0</b> -050 <sup>-</sup>	—	—	—		
	8	<b>0</b> -009	<b>0</b> -009	<b>0</b> -009	—								
	7	<b>0</b> -020	<b>0</b> -020	—	—								
6	<b>0</b> -040	—	—	—									

The table shows: (1) In bold type, for given a, A and B, the value of b (<a) which is just significant at the probability level quoted (single-tail test).

(2) In small type, for given A, B and r = a + b, the exact probability (if there is independence) that b is equal to or less than the integer shown in bold type.

Table 38 (continued)

	a	Probability					a	Probability						
		0-05	0-025	0-01	0-005			0-05	0-025	0-01	0-005			
A=15 B=14	15	10 -042	9 -017	8 -006	7 -002	A=15 B=9	13	4 -042	3 -013	2 -003	2 -003			
	14	8 -031	7 -013	6 -005-	6 -005-		12	3 -032	2 -009	2 -009	1 -002			
	13	7 -041	6 -017	5 -007	4 -002		11	2 -021	2 -021	1 -005-	1 -005-			
	12	6 -046	5 -020	4 -007	3 -002		10	2 -045-	1 -011	0 -002	0 -002			
	11	5 -048	4 -020	3 -007	2 -002		9	1 -024	1 -024	0 -004	0 -004			
	10	4 -046	3 -018	2 -006	1 -001		8	1 -048	0 -009	0 -009	—			
	9	3 -041	2 -014	1 -004	1 -004		7	0 -019	0 -019	—	—			
	8	2 -033	1 -009	1 -009	0 -001		6	0 -037	—	—	—			
	7	1 -022	1 -022	0 -004	0 -004		8	15	5 -032	4 -008	4 -008	3 -002		
	6	1 -049	0 -011	—	—			14	4 -033	3 -009	3 -009	2 -002		
	5	0 -025+	—	—	—			13	3 -026	2 -006	2 -006	1 -001		
	13	15	9 -035-	8 -013	7 -005-			7 -005-	12	2 -017	2 -017	1 -003	1 -003	
		14	7 -023	7 -023	6 -009			5 -003	11	2 -037	1 -008	1 -008	0 -001	
		13	6 -029	5 -011	4 -004			4 -004	10	1 -019	1 -019	0 -003	0 -003	
		12	5 -031	4 -012	3 -004			3 -004	9	1 -038	0 -006	0 -006	—	
11		4 -030	3 -011	2 -003	2 -003	8		0 -013	0 -013	—	—			
10		3 -026	2 -008	2 -008	1 -002	7		0 -026	—	—	—			
9		2 -020	2 -020	1 -005+	0 -001	6		0 -050-	—	—	—			
8		2 -043	1 -013	0 -002	0 -002	7		15	4 -023	4 -023	3 -005-	3 -005-		
7		1 -029	0 -005+	0 -005+	—			14	3 -021	3 -021	2 -004	2 -004		
6		0 -013	0 -013	—	—			13	2 -014	2 -014	1 -002	1 -002		
5		0 -031	—	—	—			12	2 -032	1 -007	1 -007	0 -001		
12		15	8 -028	7 -010-	7 -010-			6 -003	11	1 -015+	1 -015+	0 -002	0 -002	
		14	7 -043	6 -016	5 -006		4 -002	10	1 -032	0 -005-	0 -005-	0 -005-		
		13	6 -049	5 -019	4 -007		3 -002	9	0 -010+	0 -010+	—	—		
		12	5 -049	4 -019	3 -006		2 -002	8	0 -020	0 -020	—	—		
	11	4 -045+	3 -017	2 -005-	2 -005-		7	0 -038	—	—	—			
	10	3 -038	2 -012	1 -003	1 -003		6	15	3 -015+	3 -015+	2 -003	2 -003		
	9	2 -028	1 -007	1 -007	0 -001			14	2 -011	2 -011	1 -002	1 -002		
	8	1 -018	1 -018	0 -003	0 -003			13	2 -031	1 -006	1 -006	0 -001		
	7	1 -038	0 -007	0 -007	—			12	1 -014	1 -014	0 -002	0 -002		
	6	0 -017	0 -017	—	—			11	1 -029	0 -004	0 -004	0 -004		
	5	0 -037	—	—	—			10	0 -009	0 -009	0 -009	—		
	11	15	7 -022	7 -022	6 -007	5 -002		9	0 -017	0 -017	—	—		
		14	6 -032	5 -011	4 -003	4 -003		8	0 -032	—	—	—		
		13	5 -034	4 -012	3 -003	3 -003		5	15	2 -009	2 -009	2 -009	1 -001	
		12	4 -032	3 -010+	2 -003	2 -003			14	2 -032	1 -005-	1 -005-	1 -005-	
11		3 -026	2 -008	2 -008	1 -002	13			1 -014	1 -014	0 -001	0 -001		
10		2 -019	2 -019	1 -004	1 -004	12			1 -031	0 -004	0 -004	0 -004		
9		2 -040	1 -011	0 -002	0 -002	11			0 -008	0 -008	0 -008	—		
8		1 -024	1 -024	0 -004	0 -004	10			0 -016	0 -016	—	—		
7		1 -049	0 -010-	0 -010-	—	9			0 -030	—	—	—		
6		0 -022	0 -022	—	—	4	15		2 -035+	1 -004	1 -004	1 -004		
5		0 -046	—	—	—		14		1 -016	1 -016	0 -001	0 -001		
10		15	6 -017	6 -017	5 -005-		5 -005-		13	1 -037	0 -004	0 -004	0 -004	
		14	5 -023	5 -023	4 -007		3 -002		12	0 -009	0 -009	0 -009	—	
		13	4 -022	4 -022	3 -007		2 -001		11	0 -018	0 -018	—	—	
		12	3 -018	3 -018	2 -005-		2 -005-		10	0 -033	—	—	—	
	11	3 -042	2 -013	1 -003	1 -003		3		15	1 -020	1 -020	0 -001	0 -001	
	10	2 -029	1 -007	1 -007	0 -001				14	0 -005-	0 -005-	0 -005-	0 -005-	
	9	1 -016	1 -016	0 -002	0 -002			13	0 -012	0 -012	—	—		
	8	1 -034	0 -006	0 -006	—			12	0 -025-	0 -025-	—	—		
	7	0 -013	0 -013	—	—			11	0 -043	—	—	—		
	6	0 -028	—	—	—			2	15	0 -007	0 -007	0 -007	—	
	9	15	6 -042	5 -012	4 -003				4 -003	14	0 -022	0 -022	—	—
		14	5 -047	4 -015-	3 -004				3 -004	13	0 -044	—	—	—