

N12.

$$n=2 \quad \omega=0, 2.$$

$$\{1, 2, 3, 4\}$$

$$H_0: p_{01} = \frac{1}{4}, p_{02} = \frac{1}{4}, p_{03} = \frac{11}{24}, p_{04} = \frac{8}{24}$$

$$H_1: p_{11} = p_{12} = p_{13} = p_{14} = \frac{1}{4}$$

	1	2	3	4
p_1	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{5}{24}$	$\frac{5}{24}$
p_2	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$
C	$\frac{5}{16}$	$\frac{5}{16}$	$\frac{5}{16}$	$\frac{5}{16}$

$K_1 \backslash K_2$	1	2	3	4
1	1	1	$\frac{1}{2}$	$\frac{1}{2}$
2	1	1	$\frac{1}{2}$	$\frac{1}{2}$
3	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{4}$	$\frac{1}{4}$
4	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{4}$	$\frac{1}{4}$

H_0

$K_1 \backslash K_2$	1	2	3	4
1	$\frac{1}{16}$	$\frac{1}{16}$	$\frac{1}{24}$	$\frac{1}{12}$
2	$\frac{1}{16}$	$\frac{1}{16}$	$\frac{1}{24}$	$\frac{1}{12}$
3	$\frac{1}{24}$	$\frac{1}{24}$	$\frac{1}{16}$	$\frac{1}{12}$
4	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{8}$

$K_1 \backslash K_2$	1	2	3	4
1	$\frac{1}{16}$	$\frac{1}{16}$	$\frac{1}{16}$	$\frac{1}{16}$
2	$\frac{1}{16}$	$\frac{1}{16}$	$\frac{1}{16}$	$\frac{1}{16}$
3	$\frac{1}{16}$	$\frac{1}{16}$	$\frac{1}{16}$	$\frac{1}{16}$
4	$\frac{1}{16}$	$\frac{1}{16}$	$\frac{1}{16}$	$\frac{1}{16}$

$$\text{Hypothesis } C, \text{ then } P(C \neq C | H_0) \leq 0.1$$

$$\text{Then } C = \frac{3}{2} \Rightarrow P(C \neq C | H_0) = \frac{1}{16} + \frac{1}{16} = \frac{2}{16}$$

$$P(C \neq C | H_1) = \frac{1}{16} + \frac{1}{16} = \frac{2}{16} = \frac{1}{8}$$

$$W = 1 - \frac{1}{8} = \frac{7}{8}$$