$p\text{-value} = P(\Delta > \tilde{\Delta}) = \int_{29{,}48}^{\infty} q_2(t)\,dt = 3{,}57 \cdot 10^{-5} < \alpha = 0{,}01$

Отвергаем H_0

К 8

$n = 300$ в каждой

	2	3	4	5
I	33	43	80	144
II	39	35	72	154

H_0: однородная выборка

H_1: H_0

$p_2 = \frac{72}{600}$ $p_3 = \frac{78}{600}$ $p_4 = \frac{152}{600}$ $p_5 = \frac{298}{600}$

$$\Delta_1 = \sum_{i=2}^{5} \frac{(n_{1i} - n_1 p_i)^2}{n_1 p_i} = \frac{(33-36)^2}{36} + \frac{(43-39)^2}{39} + \frac{(80-76)^2}{76} + \frac{(144-149)^2}{149}$$

$\Delta_1 = 0{,}25 + 0{,}41 + 0{,}21 + 0{,}17 = 1{,}04$

$$\Delta_2 = \sum_{i=2}^{5} \frac{(n_{2i} - n_2 p_i)^2}{n_2 p_i} = \frac{(39-36)^2}{36} + \frac{(35-39)^2}{39} + \frac{(72-76)^2}{76} + \frac{(154-149)^2}{149}$$

$\Delta_2 = 0{,}25 + 0{,}41 + 0{,}21 + 0{,}17 = 1{,}04$

$\tilde{\Delta} = \Delta_1 + \Delta_2 = 2{,}08$ $\Delta \sim \chi^2((2-1)(4-1)) = \chi^2(3)$

$$p\text{-value} = Pr(\Delta \geq \hat{\Delta} \mid H_0) = \int_{2,05}^{\infty} q_3(t)\,dt = 0,555 \gg \alpha = 0,05$$

Нечего сказать о H_0 не можем

Т10

H_0: $\varphi \equiv p_0 = \begin{cases} 1, & x \in (0,1) \\ 0 & x \in (0,1) \end{cases}$

H_1: $\varphi = p_1(x) = \begin{cases} \frac{e^1 - x}{e-1}, & x \in \\ 0, & x \end{cases}$