T_{12}

$S^2 = 0,2$

$n = 25$

$H_0: \Theta_2^2 = 0,1$

$H_1: \Theta_2^2 > 0,1$

$\hat{\Delta} = \frac{S^2(n-1)}{6} = \frac{0,2 \cdot 24}{0,1} = 48$; $\Delta \sim \chi^2(n-1) = \chi^2(24)$

$G_{кр}: \Delta > C$

$P(\vec{x}_n \in G_{кр} \mid H_0) = \alpha$

$P(\Delta > C \mid H_0) = \int_C^{+\infty} q_{\chi^2(24)}\, dx = \alpha = 0,05$

$C = 36,41$

$G_{кр}: \Delta > 36,41$

$W = P(\Delta > C \mid H_1) = P\left(\frac{S^2(n-1)}{6} \geq 36,41 \mid H_1\right) =$

$= P\left(\frac{S^2(n-1)}{\Theta_2^2} \geq \frac{36,41\,6}{\Theta_2^2} \mid H_1\right) = \int_{\frac{1}{\Theta_2^2}36,41\,6}^{\infty} q_{\chi^2(24)}\, dx$

$$W = \int_{\frac{36,41 B}{\Theta_2^2}}^{+\infty} q_{\chi^2(24)}\, dx = W(\Theta_2^2)$$