

Hypothesis testing - one sample

distribution	hypothesis		test statistic	critical region W_α	note
	H - null	A - alternative			
$N(\mu, \sigma^2)$	$\mu = \mu_0$	$\mu \neq \mu_0$ $\mu > \mu_0$ $\mu < \mu_0$	$t = \frac{\bar{x} - \mu_0}{s} \cdot \sqrt{n}$	$ t \geq t_{1-\alpha/2}(v)$ $t \geq t_{1-\alpha}(v)$ $t \leq -t_{1-\alpha}(v)$	$v = n - 1$ for $v > 30$: $t_p(v) \approx u_p$
	$\sigma^2 = \sigma_0^2$	$\sigma^2 \neq \sigma_0^2$ $\sigma^2 > \sigma_0^2$ $\sigma^2 < \sigma_0^2$	$\chi^2 = \frac{(n-1) \cdot s^2}{\sigma_0^2}$	$\chi^2 \leq \chi_{\alpha/2}^2(v) \vee \chi^2 \geq \chi_{1-\alpha/2}^2(v)$ $\chi^2 \geq \chi_{1-\alpha}^2(v)$ $\chi^2 \leq \chi_\alpha^2(v)$	$v = n - 1$ for $v > 30$: $\chi_p^2(v) \approx 0,5(u_p + \sqrt{2v-1})^2$
any	$\mu = \mu_0$	$\mu \neq \mu_0$ $\mu > \mu_0$ $\mu < \mu_0$	$u = \frac{\bar{x} - \mu_0}{s} \cdot \sqrt{n}$	$ u \geq u_{1-\alpha/2}$ $u \geq u_{1-\alpha}$ $u \leq -u_{1-\alpha}$	for n large enough
$A(\pi)$	$\pi = \pi_0$	$\pi \neq \pi_0$ $\pi > \pi_0$ $\pi < \pi_0$	$u = \frac{p - \pi_0}{\sqrt{\pi_0(1-\pi_0)}} \cdot \sqrt{n}$	$ u \geq u_{1-\alpha/2}$ $u \geq u_{1-\alpha}$ $u \leq -u_{1-\alpha}$	for n: $n\pi_0(1-\pi_0) > 9$