



1-sample  $z$ -test 1  $\Rightarrow z = \frac{\bar{x} - \mu_0}{\sigma/\sqrt{n}}$

pooled  $t$ -test 8  $\Rightarrow t_{n_1+n_2-2} = \frac{\bar{x}_1 - \bar{x}_2 - (\mu_1 - \mu_2)}{\sqrt{s_p^2(1/n_1 + 1/n_2)}}$

1-sample  $t$ -test 2  $\Rightarrow t_{n-1} = \frac{\bar{x} - \mu_0}{s/\sqrt{n}}$

2-sample  $t$ -test 9  $\Rightarrow t_{df} \approx z = \frac{\bar{x}_1 - \bar{x}_2 - (\mu_1 - \mu_2)}{\sqrt{s_1^2/n_1 + s_2^2/n_2}}$

approximate  $z$ -test 3  $\Rightarrow t_{n-1} \approx z = \frac{\bar{x} - \mu_0}{s/\sqrt{n}}$

paired  $t$ -test 10  $\Rightarrow t_{n_d-1} = \frac{\bar{x}_d - \mu_{d_0}}{s_d/\sqrt{n_d}}$

5  $\Rightarrow$  exact Binomial

2-sample proportions 11  $\Rightarrow z = \frac{p_1 - p_2}{\sqrt{p_c(1-p_c)(1/n_1 + 1/n_2)}}$

normal approximation 6  $\Rightarrow z = \frac{p - \pi_0}{\sqrt{\pi_0(1-\pi_0)/n}}$

NP  $\Rightarrow$  non-parametric test

To test  $H_0 : \sigma^2 = \sigma_0^2 \Rightarrow \chi^2 = \frac{(n-1)s^2}{\sigma_0^2}$

To test  $H_0 : \sigma_1^2 = \sigma_2^2 \Rightarrow F = \frac{s_1^2/\sigma_1^2}{s_2^2/\sigma_2^2}$